

000001

SAMPLE DATA SUMMARY PACKAGE

142842



Engineers
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Economists
Scientists

CASE NARRATIVE FOR VOLATILE
MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	NA	04/15/92
21396002	MW3D-1	WATER	04/07/92	NA	04/15/92
21396002DL	MW3D-1 DL	WATER	04/07/92	NA	04/20/92
21396003	FB-1	WATER	04/07/92	NA	04/15/92
21396004	MW4S-1	WATER	04/07/92	NA	04/15/92
21396005	MW4D-1	WATER	04/07/92	NA	04/15/92
21396005DL	MW4D-1 DL	WATER	04/07/92	NA	04/20/92
21396006	M-1	WATER	04/07/92	NA	04/15/92
21396006DL	M-1 DL	WATER	04/07/92	NA	04/20/92
21396007	TB-1	WATER	04/07/92	NA	04/13/92
X04132B1	VBLKW	WATER	NA	NA	04/13/92
X04152B1	VBLKW_2	WATER	NA	NA	04/15/92
X04202B1	VBLKW_3	WATER	NA	NA	04/20/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.

B. Extraction

Exceptions : Not applicable.



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VOLATILE
LAB NO. 21396
PAGE 2

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.

Due to the electronic saturation of the quantitation ion (mz 78), the quantitated amount of Benzene present in sample 21396002 (MW3D-1) was determined by using a secondary ion (mz 52) quantitation. A chromatogram demonstrating the saturation has been included with the sample as well as the calculation used to determine the amount of Benzene present in the sample.

The original analysis of samples 21396002 (MW3D-1), 21396005 (MW4D-1), and 21396006 (M-1) showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analysis have been reported.

No other exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate Recoveries : All samples met acceptable QC limits.

C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

6/14/92
Date



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CASE NARRATIVE FOR SEMIVOLATILE
MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	04/09/92	04/21/92
21396002	MW3D-1	WATER	04/07/92	04/09/92	04/21/92
21396002DL	MW3D-1 DL	WATER	04/07/92	04/09/92	04/22/92
21396003	FB-1	WATER	04/07/92	04/09/92	04/21/92
21396004	MW4S-1	WATER	04/07/92	04/09/92	04/21/92
21396004DL	MW4S-1 DL	WATER	04/07/92	04/09/92	04/22/92
21396005	MW4D-1	WATER	04/07/92	04/09/92	04/21/92
21396006	MW-1	WATER	04/07/92	04/09/92	04/21/92
CO4092B1	SBLKW	WATER	NA	04/09/92	04/21/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

No other exceptions were encountered.

II. EXTRACTION

A. Holding Times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : The original analysis of samples 21396002 (MW3D-1) and 21396004 (MW4S-1) showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

No other exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate

Recoveries : Samples 21396002 (MW3D-1), 21396002DL (MW3D-1 DL), 21396005 (MW4D-1), and 21396006 (MW-1) required large dilutions for analysis. Therefore, surrogate recoveries could not be determined for these samples.

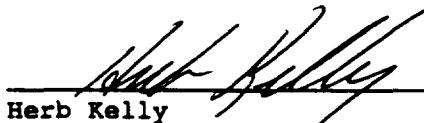
All other samples met acceptable QC limits.

C. Matrix Spike

Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

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Herb Kelly
Manager, Organic Division


Date
6/4/92



Engineers
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Scientists

CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	04/09/92	05/05/92
21396002	MW3D-1	WATER	04/07/92	04/09/92	05/05/92
21396003	FB-1	WATER	04/07/92	04/09/92	05/05/92
21396004	MW4S-1	WATER	04/07/92	04/09/92	05/05/92
21396005	MW4D-1	WATER	04/07/92	04/09/92	05/05/92
21396005DL	MW4D-1DL	WATER	04/07/92	04/09/92	05/05/92
21396006	M-1	WATER	04/07/92	04/09/92	05/05/92
21396006DL	M-1DL	WATER	04/07/92	04/09/92	05/05/92
W04092B1	PBLK09	WATER	NA	04/09/92	05/05/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.

PCB reporting limits were raised for samples 21396002 (MW3D-1), 21396005 (MW4D-1), and 21396006 (M-1) because of chemical interferences not removed by our cleanup procedures.

No additional exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

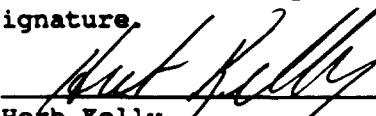
B. Surrogate Recoveries : The percent recovery for Tetrachloro-m-xylene for sample 21396004 (MW4S-1) was outside advisory QC limits on both primary and confirmation analyses. Also, the percent recovery for Tetrachloro-m-xylene for the method blank was outside advisory QC limits on the confirmation analysis. Since these limits are advisory limits only, the laboratory took no further action. All other samples met advisory QC limits.

C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

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I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division
2567 Fairlane Drive, P.O. Box 230548
Montgomery, Alabama 36116

6/4/92
Date

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3S-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396001

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C2VO021481

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	6	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	3	J
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	3	J
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3S-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C2VO021481

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1V0021483

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 6.2

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	62	U
74-83-9-----	Bromomethane	62	U
75-01-4-----	Vinyl Chloride	62	U
75-00-3-----	Chloroethane	62	U
75-09-2-----	Methylene Chloride	23	BJ
67-64-1-----	Acetone	840	
75-15-0-----	Carbon Disulfide	62	U
75-35-4-----	1,1-Dichloroethene	62	U
75-34-3-----	1,1-Dichloroethane	62	U
540-59-0-----	1,2-Dichloroethene (total)	62	U
67-66-3-----	Chloroform	62	U
107-06-2-----	1,2-Dichloroethane	62	U
78-93-3-----	2-Butanone	120	
71-55-6-----	1,1,1-Trichloroethane	62	U
56-23-5-----	Carbon Tetrachloride	62	U
75-27-4-----	Bromodichloromethane	62	U
78-87-5-----	1,2-Dichloropropane	62	U
10061-01-5-----	cis-1,3-Dichloropropene	62	U
79-01-6-----	Trichloroethene	62	U
124-48-1-----	Dibromochloromethane	62	U
79-00-5-----	1,1,2-Trichloroethane	62	U
71-43-2-----	Benzene	1100	
10061-02-6-----	trans-1,3-Dichloropropene	62	U
75-25-2-----	Bromoform	62	U
591-78-6-----	2-Hexanone	62	U
108-10-1-----	4-Methyl-2-Pentanone	62	U
127-18-4-----	Tetrachloroethene	62	U
79-34-5-----	1,1,2,2-Tetrachloroethane	62	U
108-88-3-----	Toluene	62	U
108-90-7-----	Chlorobenzene	62	U
100-41-4-----	Ethylbenzene	62	U
100-42-5-----	Styrene	62	U
1330-20-7-----	Xylene (total)	38	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021483

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 6.2

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-06-8	PYRIDINE, 2-METHYL-	17.84	45	J
2. 271-89-6	BENZOFURAN	22.49	44	J
3. 95-13-6	1H-INDENE	23.60	280	J
4.	NOT IDENTIFIED	8.67	110	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3D-1_DL

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C3VO021543

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	100	U
74-83-9-----	Bromomethane	100	U
75-01-4-----	Vinyl Chloride	100	U
75-00-3-----	Chloroethane	100	U
75-09-2-----	Methylene Chloride	60	BDJ
67-64-1-----	Acetone	810	BD
75-15-0-----	Carbon Disulfide	100	U
75-35-4-----	1,1-Dichloroethene	100	U
75-34-3-----	1,1-Dichloroethane	100	U
540-59-0-----	1,2-Dichloroethene (total)	100	U
67-66-3-----	Chloroform	100	U
107-06-2-----	1,2-Dichloroethane	100	U
78-93-3-----	2-Butanone	150	BD
71-55-6-----	1,1,1-Trichloroethane	100	U
56-23-5-----	Carbon Tetrachloride	100	U
75-27-4-----	Bromodichloromethane	100	U
78-87-5-----	1,2-Dichloropropane	100	U
10061-01-5-----	cis-1,3-Dichloropropene	100	U
79-01-6-----	Trichloroethene	100	U
124-48-1-----	Dibromochloromethane	100	U
79-00-5-----	1,1,2-Trichloroethane	100	U
71-43-2-----	Benzene	1100	D
10061-02-6-----	trans-1,3-Dichloropropene	100	U
75-25-2-----	Bromoform	100	U
591-78-6-----	2-Hexanone	100	U
108-10-1-----	4-Methyl-2-Pentanone	100	U
127-18-4-----	Tetrachloroethene	100	U
79-34-5-----	1,1,2,2-Tetrachloroethane	100	U
108-88-3-----	Toluene	32	DJ
108-90-7-----	Chlorobenzene	100	U
100-41-4-----	Ethylbenzene	100	U
100-42-5-----	Styrene	100	U
1330-20-7-----	Xylene (total)	44	DJ

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1_DL

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C3V0021543

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 95-13-6	1H-INDENE	23.59	270	J
2.	NOT IDENTIFIED	8.59	110	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396003

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021478

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	6	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396003

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021478

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	15.89	11	J
2. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	19.60	19	J
3. 541-02-6	CYCLOPENTASILOXANE, DECAMETH	22.72	10	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21396004Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1V0021482Level: (low/med) LOWDate Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	5	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloroproppane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021482

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396005

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1VO021486

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	40	U
74-83-9-----	Bromomethane	40	U
75-01-4-----	Vinyl Chloride	40	U
75-00-3-----	Chloroethane	40	U
75-09-2-----	Methylene Chloride	14	BJ
67-64-1-----	Acetone	1000	E
75-15-0-----	Carbon Disulfide	6	J
75-35-4-----	1,1-Dichloroethene	40	U
75-34-3-----	1,1-Dichloroethane	40	U
540-59-0-----	1,2-Dichloroethene (total)	40	U
67-66-3-----	Chloroform	40	U
107-06-2-----	1,2-Dichloroethane	40	U
78-93-3-----	2-Butanone	140	
71-55-6-----	1,1,1-Trichloroethane	40	U
56-23-5-----	Carbon Tetrachloride	40	U
75-27-4-----	Bromodichloromethane	40	U
78-87-5-----	1,2-Dichloropropane	40	U
10061-01-5-----	cis-1,3-Dichloropropene	40	U
79-01-6-----	Trichloroethene	40	U
124-48-1-----	Dibromochloromethane	40	U
79-00-5-----	1,1,2-Trichloroethane	40	U
71-43-2-----	Benzene	460	
10061-02-6-----	trans-1,3-Dichloropropene	40	U
75-25-2-----	Bromoform	40	U
591-78-6-----	2-Hexanone	40	U
108-10-1-----	4-Methyl-2-Pentanone	40	U
127-18-4-----	Tetrachloroethene	40	U
79-34-5-----	1,1,2,2-Tetrachloroethane	40	U
108-88-3-----	Toluene	40	U
108-90-7-----	Chlorobenzene	40	U
100-41-4-----	Ethylbenzene	40	U
100-42-5-----	Styrene	40	U
1330-20-7-----	Xylene (total)	40	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396005

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1VO021486

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 4

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-06-8	PYRIDINE, 2-METHYL-	17.82	52	J
2. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	19.60	110	J
3. 541-02-6	CYCLOPENTASILOXANE, DECAMETH	22.72	82	J
4.	NOT IDENTIFIED	8.64	150	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW4D-1_DL

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396005DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C3V0021542

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 8.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	80	U
74-83-9-----	Bromomethane	80	U
75-01-4-----	Vinyl Chloride	80	U
75-00-3-----	Chloroethane	80	U
75-09-2-----	Methylene Chloride	48	BDJ
67-64-1-----	Acetone	860	BD
75-15-0-----	Carbon Disulfide	80	U
75-35-4-----	1,1-Dichloroethene	80	U
75-34-3-----	1,1-Dichloroethane	80	U
540-59-0-----	1,2-Dichloroethene (total)	80	U
67-66-3-----	Chloroform	80	U
107-06-2-----	1,2-Dichloroethane	80	U
78-93-3-----	2-Butanone	150	BD
71-55-6-----	1,1,1-Trichloroethane	80	U
56-23-5-----	Carbon Tetrachloride	80	U
75-27-4-----	Bromodichloromethane	80	U
78-87-5-----	1,2-Dichloropropane	80	U
10061-01-5-----	cis-1,3-Dichloropropene	80	U
79-01-6-----	Trichloroethene	80	U
124-48-1-----	Dibromochloromethane	80	U
79-00-5-----	1,1,2-Trichloroethane	80	U
71-43-2-----	Benzene	440	D
10061-02-6-----	trans-1,3-Dichloropropene	80	U
75-25-2-----	Bromoform	80	U
591-78-6-----	2-Hexanone	80	U
108-10-1-----	4-Methyl-2-Pentanone	80	U
127-18-4-----	Tetrachloroethene	80	U
79-34-5-----	1,1,2,2-Tetrachloroethane	80	U
108-88-3-----	Toluene	80	U
108-90-7-----	Chlorobenzene	80	U
100-41-4-----	Ethylbenzene	80	U
100-42-5-----	Styrene	80	U
1330-20-7-----	Xylene (total)	80	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1_DL

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396005DL

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C3VO021542

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 8.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-06-8	PYRIDINE, 2-METHYL-	17.80	44	J
2.	NOT IDENTIFIED	8.65	130	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

M-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021487

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 4.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	40	U
74-83-9-----	Bromomethane	40	U
75-01-4-----	Vinyl Chloride	40	U
75-00-3-----	Chloroethane	40	U
75-09-2-----	Methylene Chloride	14	BJ
67-64-1-----	Acetone	830	E
75-15-0-----	Carbon Disulfide	6	J
75-35-4-----	1,1-Dichloroethene	40	U
75-34-3-----	1,1-Dichloroethane	40	U
540-59-0-----	1,2-Dichloroethene (total)	40	U
67-66-3-----	Chloroform	40	U
107-06-2-----	1,2-Dichloroethane	40	U
78-93-3-----	2-Butanone	140	
71-55-6-----	1,1,1-Trichloroethane	40	U
56-23-5-----	Carbon Tetrachloride	40	U
75-27-4-----	Bromodichloromethane	40	U
78-87-5-----	1,2-Dichloropropane	40	U
10061-01-5-----	cis-1,3-Dichloropropene	40	U
79-01-6-----	Trichloroethene	40	U
124-48-1-----	Dibromochloromethane	40	U
79-00-5-----	1,1,2-Trichloroethane	40	U
71-43-2-----	Benzene	420	
10061-02-6-----	trans-1,3-Dichloropropene	40	U
75-25-2-----	Bromoform	40	U
591-78-6-----	2-Hexanone	40	U
108-10-1-----	4-Methyl-2-Pentanone	40	U
127-18-4-----	Tetrachloroethene	40	U
79-34-5-----	1,1,2,2-Tetrachloroethane	40	U
108-88-3-----	Toluene	40	U
108-90-7-----	Chlorobenzene	40	U
100-41-4-----	Ethylbenzene	40	U
100-42-5-----	Styrene	40	U
1330-20-7-----	Xylene (total)	40	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1V0021487

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 4.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-06-8	PYRIDINE, 2-METHYL-	17.79	42	J
2.	NOT IDENTIFIED	8.50	130	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1_DL

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C2V0021541

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	50	U
74-83-9-----	Bromomethane	50	U
75-01-4-----	Vinyl Chloride	50	U
75-00-3-----	Chloroethane	50	U
75-09-2-----	Methylene Chloride	31	BJ
67-64-1-----	Acetone	820	B
75-15-0-----	Carbon Disulfide	6	J
75-35-4-----	1,1-Dichloroethene	50	U
75-34-3-----	1,1-Dichloroethane	50	U
540-59-0-----	1,2-Dichloroethene (total)	50	U
67-66-3-----	Chloroform	50	U
107-06-2-----	1,2-Dichloroethane	50	U
78-93-3-----	2-Butanone	130	B
71-55-6-----	1,1,1-Trichloroethane	50	U
56-23-5-----	Carbon Tetrachloride	50	U
75-27-4-----	Bromodichloromethane	50	U
78-87-5-----	1,2-Dichloropropane	50	U
10061-01-5-----	cis-1,3-Dichloropropene	50	U
79-01-6-----	Trichloroethene	50	U
124-48-1-----	Dibromochloromethane	50	U
79-00-5-----	1,1,2-Trichloroethane	50	U
71-43-2-----	Benzene	420	
10061-02-6-----	trans-1,3-Dichloropropene	50	U
75-25-2-----	Bromoform	50	U
591-78-6-----	2-Hexanone	50	U
108-10-1-----	4-Methyl-2-Pentanone	50	U
127-18-4-----	Tetrachloroethene	50	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50	U
108-88-3-----	Toluene	50	U
108-90-7-----	Chlorobenzene	50	U
100-41-4-----	Ethylbenzene	50	U
100-42-5-----	Styrene	50	U
1330-20-7-----	Xylene (total)	50	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1_DL

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C2V0021541

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 5.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-06-8	PYRIDINE, 2-METHYL-	17.82	37	J
2.	NOT IDENTIFIED	8.52	120	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

TB-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021450

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/13/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	9	BJ
67-64-1-----	Acetone	8	BJ
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	1	J
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

TB-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021450

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: not dec. _____ Date Analyzed: 04/13/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3S-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010604

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	110	U
108-95-2-----	Phenol	110	
111-44-4-----	bis(2-Chloroethyl)Ether	20	U
95-57-8-----	2-Chlorophenol	20	U
541-73-1-----	1,3-Dichlorobenzene	20	U
106-46-7-----	1,4-Dichlorobenzene	20	U
95-50-1-----	1,2-Dichlorobenzene	20	U
95-48-7-----	2-Methylphenol	9	J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	20	U
106-44-5-----	4-Methylphenol	26	
621-64-7-----	N-Nitroso-Di-n-Propylamine	20	U
67-72-1-----	Hexachloroethane	20	U
98-95-3-----	Nitrobenzene	20	U
78-59-1-----	Isophorone	20	U
88-75-5-----	2-Nitrophenol	20	U
105-67-9-----	2,4-Dimethylphenol	20	U
111-91-1-----	bis(2-Chloroethoxy)Methane	20	U
120-83-2-----	2,4-Dichlorophenol	20	U
120-82-1-----	1,2,4-Trichlorobenzene	20	U
91-20-3-----	Naphthalene	20	U
106-47-8-----	4-Chloroaniline	20	U
87-68-3-----	Hexachlorobutadiene	20	U
59-50-7-----	4-Chloro-3-Methylphenol	20	U
91-57-6-----	2-Methylnaphthalene	20	U
77-47-4-----	Hexachlorocyclopentadiene	20	U
88-06-2-----	2,4,6-Trichlorophenol	20	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	20	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethylphthalate	20	U
208-96-8-----	Acenaphthylene	20	U
606-20-2-----	2,6-Dinitrotoluene	20	U
99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	20	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3S-1

, Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010604

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	50 U
100-02-7-----	4-Nitrophenol	50 U
132-64-9-----	Dibenzofuran	20 U
121-14-2-----	2,4-Dinitrotoluene	20 U
84-66-2-----	Diethylphthalate	20 U
7005-72-3-----	4-Chlorophenyl-phenylether	20 U
86-73-7-----	Fluorene	20 U
100-10-6-----	4-Nitroaniline	50 U
534-52-1-----	4,6-Dinitro-2-methylphenol	50 U
86-30-6-----	N-Nitrosodiphenylamine (1)	20 U
101-55-3-----	4-Bromophenyl-phenylether	20 U
118-74-1-----	Hexachlorobenzene	20 U
87-86-5-----	Pentachlorophenol	50 U
85-01-8-----	Phenanthrene	20 U
120-12-7-----	Anthracene	20 U
86-74-8-----	Carbazole	20 U
84-74-2-----	Di-n-Butylphthalate	8 BJ
206-44-0-----	Fluoranthene	20 U
129-00-0-----	Pyrene	20 U
85-68-7-----	Butylbenzylphthalate	20 U
91-94-1-----	3,3'-Dichlorobenzidine	20 U
56-55-3-----	Benzo(a)Anthracene	20 U
218-01-9-----	Chrysene	20 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	20 U
117-84-0-----	Di-n-Octyl Phthalate	20 U
205-99-2-----	Benzo(b)Fluoranthene	20 U
207-08-9-----	Benzo(k)Fluoranthene	20 U
50-32-8-----	Benzo(a)Pyrene	20 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	20 U
53-70-3-----	Dibenz(a,h)Anthracene	20 U
191-24-2-----	Benzo(g,h,i)Perylene	20 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3S-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396001

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010604

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: DIBA010608

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	1700000 E
111-44-4-----	bis(2-Chloroethyl)Ether	100000 U
95-57-8-----	2-Chlorophenol	100000 U
541-73-1-----	1,3-Dichlorobenzene	100000 U
106-46-7-----	1,4-Dichlorobenzene	100000 U
95-50-1-----	1,2-Dichlorobenzene	100000 U
95-48-7-----	2-Methylphenol	210000
108-60-1-----	2,2'-oxybis(1-Chloropropane)	100000 U
106-44-5-----	4-Methylphenol	730000
621-64-7-----	N-Nitroso-Di-n-Propylamine	100000 U
67-72-1-----	Hexachloroethane	100000 U
98-95-3-----	Nitrobenzene	100000 U
78-59-1-----	Isophorone	100000 U
88-75-5-----	2-Nitrophenol	100000 U
105-67-9-----	2,4-Dimethylphenol	39000 J
111-91-1-----	bis(2-Chloroethoxy)Methane	100000 U
120-83-2-----	2,4-Dichlorophenol	100000 U
120-82-1-----	1,2,4-Trichlorobenzene	100000 U
91-20-3-----	Naphthalene	100000 U
106-47-8-----	4-Chloroaniline	100000 U
87-68-3-----	Hexachlorobutadiene	100000 U
59-50-7-----	4-Chloro-3-Methylphenol	100000 U
91-57-6-----	2-Methylnaphthalene	100000 U
77-47-4-----	Hexachlorocyclopentadiene	100000 U
88-06-2-----	2,4,6-Trichlorophenol	100000 U
95-95-4-----	2,4,5-Trichlorophenol	250000 U
91-58-7-----	2-Chloronaphthalene	100000 U
88-74-4-----	2-Nitroaniline	250000 U
131-11-3-----	Dimethylphthalate	100000 U
208-96-8-----	Acenaphthylene	100000 U
606-20-2-----	2,6-Dinitrotoluene	100000 U
99-09-2-----	3-Nitroaniline	250000 U
83-32-9-----	Acenaphthene	100000 U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010608

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
51-28-5-----	2,4-Dinitrophenol	250000	U
100-02-7-----	4-Nitrophenol	250000	U
132-64-9-----	Dibenzofuran	100000	U
121-14-2-----	2,4-Dinitrotoluene	100000	U
84-66-2-----	Diethylphthalate	100000	U
7005-72-3-----	4-Chlorophenyl-phenylether	100000	U
86-73-7-----	Fluorene	100000	U
100-10-6-----	4-Nitroaniline	250000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	250000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	100000	U
101-55-3-----	4-Bromophenyl-phenylether	100000	U
118-74-1-----	Hexachlorobenzene	100000	U
87-86-5-----	Pentachlorophenol	250000	U
85-01-8-----	Phenanthrene	100000	U
120-12-7-----	Anthracene	100000	U
86-74-8-----	Carbazole	100000	U
84-74-2-----	Di-n-Butylphthalate	100000	U
206-44-0-----	Fluoranthene	100000	U
129-00-0-----	Pyrene	100000	U
85-68-7-----	Butylbenzylphthalate	100000	U
91-94-1-----	3,3'-Dichlorobenzidine	100000	U
56-55-3-----	Benzo(a)Anthracene	100000	U
218-01-9-----	Chrysene	100000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	100000	U
117-84-0-----	Di-n-Octyl Phthalate	100000	U
205-99-2-----	Benzo(b)Fluoranthene	100000	U
207-08-9-----	Benzo(k)Fluoranthene	100000	U
50-32-8-----	Benzo(a)Pyrene	100000	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	100000	U
53-70-3-----	Dibenz(a,h)Anthracene	100000	U
191-24-2-----	Benzo(g,h,i)Perylene	100000	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010608

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 10000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3D-1_DL

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010618

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 25000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
108-95-2-----	Phenol	940000	D
111-44-4-----	bis(2-Chloroethyl)Ether	250000	U
95-57-8-----	2-Chlorophenol	250000	U
541-73-1-----	1,3-Dichlorobenzene	250000	U
106-46-7-----	1,4-Dichlorobenzene	250000	U
95-50-1-----	1,2-Dichlorobenzene	250000	U
95-48-7-----	2-Methylphenol	120000	DJ
108-60-1-----	2,2'-oxybis(1-Chloropropane)	250000	U
106-44-5-----	4-Methylphenol	400000	D
621-64-7-----	N-Nitroso-Di-n-Propylamine	250000	U
67-72-1-----	Hexachloroethane	250000	U
98-95-3-----	Nitrobenzene	250000	U
78-59-1-----	Isophorone	250000	U
88-75-5-----	2-Nitrophenol	250000	U
105-67-9-----	2,4-Dimethylphenol	30000	DJ
111-91-1-----	bis(2-Chloroethoxy)Methane	250000	U
120-83-2-----	2,4-Dichlorophenol	250000	U
120-82-1-----	1,2,4-Trichlorobenzene	250000	U
91-20-3-----	Naphthalene	250000	U
106-47-8-----	4-Chloroaniline	250000	U
87-68-3-----	Hexachlorobutadiene	250000	U
59-50-7-----	4-Chloro-3-Methylphenol	250000	U
91-57-6-----	2-Methylnaphthalene	250000	U
77-47-4-----	Hexachlorocyclopentadiene	250000	U
88-06-2-----	2,4,6-Trichlorophenol	250000	U
95-95-4-----	2,4,5-Trichlorophenol	620000	U
91-58-7-----	2-Choronaphthalene	250000	U
88-74-4-----	2-Nitroaniline	620000	U
131-11-3-----	Dimethylphthalate	250000	U
208-96-8-----	Acenaphthylene	250000	U
606-20-2-----	2,6-Dinitrotoluene	250000	U
99-09-2-----	3-Nitroaniline	620000	U
83-32-9-----	Acenaphthene	250000	U

1C
SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1_DLCode: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21396002DLSample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010618Level: (low/med) LOW Date Received: 04/08/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92Injection Volume: 2.0(uL) Dilution Factor: 25000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	620000 U
100-02-7-----	4-Nitrophenol	620000 U
132-64-9-----	Dibenzofuran	250000 U
121-14-2-----	2,4-Dinitrotoluene	250000 U
84-66-2-----	Diethylphthalate	250000 U
7005-72-3-----	4-Chlorophenyl-phenylether	250000 U
86-73-7-----	Fluorene	250000 U
100-10-6-----	4-Nitroaniline	620000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	620000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	250000 U
101-55-3-----	4-Bromophenyl-phenylether	250000 U
118-74-1-----	Hexachlorobenzene	250000 U
87-86-5-----	Pentachlorophenol	620000 U
85-01-8-----	Phenanthrene	250000 U
120-12-7-----	Anthracene	250000 U
86-74-8-----	Carbazole	250000 U
84-74-2-----	Di-n-Butylphthalate	250000 U
206-44-0-----	Fluoranthene	250000 U
129-00-0-----	Pyrene	250000 U
85-68-7-----	Butylbenzylphthalate	250000 U
91-94-1-----	3,3'-Dichlorobenzidine	250000 U
56-55-3-----	Benzo(a)Anthracene	250000 U
218-01-9-----	Chrysene	250000 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	250000 U
117-84-0-----	Di-n-Octyl Phthalate	250000 U
205-99-2-----	Benzo(b)Fluoranthene	250000 U
207-08-9-----	Benzo(k)Fluoranthene	250000 U
50-32-8-----	Benzo(a)Pyrene	250000 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	250000 U
53-70-3-----	Dibenz(a,h)Anthracene	250000 U
191-24-2-----	Benzo(g,h,i)Perylene	250000 U

^{1F}
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1_DL

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010618

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 25000.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-1

, Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010605

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	130
111-44-4-----	bis(2-Chloroethyl)Ether	20
95-57-8-----	2-Chlorophenol	20
541-73-1-----	1,3-Dichlorobenzene	20
106-46-7-----	1,4-Dichlorobenzene	20
95-50-1-----	1,2-Dichlorobenzene	20
95-48-7-----	2-Methylphenol	12
108-60-1-----	2,2'-oxybis(1-Chloropropane)	20
106-44-5-----	4-Methylphenol	33
621-64-7-----	N-Nitroso-Di-n-Propylamine	20
67-72-1-----	Hexachloroethane	20
98-95-3-----	Nitrobenzene	20
78-59-1-----	Isophorone	20
88-75-5-----	2-Nitrophenol	20
105-67-9-----	2,4-Dimethylphenol	20
111-91-1-----	bis(2-Chloroethoxy)Methane	20
120-83-2-----	2,4-Dichlorophenol	20
120-82-1-----	1,2,4-Trichlorobenzene	20
91-20-3-----	Naphthalene	20
106-47-8-----	4-Chloroaniline	20
87-68-3-----	Hexachlorobutadiene	20
59-50-7-----	4-Chloro-3-Methylphenol	20
91-57-6-----	2-Methylnaphthalene	20
77-47-4-----	Hexachlorocyclopentadiene	20
88-06-2-----	2,4,6-Trichlorophenol	20
95-95-4-----	2,4,5-Trichlorophenol	50
91-58-7-----	2-Chloronaphthalene	20
88-74-4-----	2-Nitroaniline	50
131-11-3-----	Dimethylphthalate	20
208-96-8-----	Acenaphthylene	20
606-20-2-----	2,6-Dinitrotoluene	20
99-09-2-----	3-Nitroaniline	50
83-32-9-----	Acenaphthene	20

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21396003Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010605Level: (low/med) LOW Date Received: 04/08/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92Injection Volume: 2.0(uL) Dilution Factor: 2.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	50 U
100-02-7-----	4-Nitrophenol	50 U
132-64-9-----	Dibenzofuran	20 U
121-14-2-----	2,4-Dinitrotoluene	20 U
84-66-2-----	Diethylphthalate	20 U
7005-72-3-----	4-Chlorophenyl-phenylether	20 U
86-73-7-----	Fluorene	20 U
100-10-6-----	4-Nitroaniline	50 U
534-52-1-----	4,6-Dinitro-2-methylphenol	50 U
86-30-6-----	N-Nitrosodiphenylamine (1)	20 U
101-55-3-----	4-Bromophenyl-phenylether	20 U
118-74-1-----	Hexachlorobenzene	20 U
87-86-5-----	Pentachlorophenol	50 U
85-01-8-----	Phenanthrene	20 U
120-12-7-----	Anthracene	20 U
86-74-8-----	Carbazole	20 U
84-74-2-----	Di-n-Butylphthalate	6 BJ
206-44-0-----	Fluoranthene	20 U
129-00-0-----	Pyrene	20 U
85-68-7-----	Butylbenzylphthalate	20 U
91-94-1-----	3,3'-Dichlorobenzidine	20 U
56-55-3-----	Benzo(a)Anthracene	20 U
218-01-9-----	Chrysene	20 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	20 U
117-84-0-----	Di-n-Octyl Phthalate	20 U
205-99-2-----	Benzo(b)Fluoranthene	20 U
207-08-9-----	Benzo(k)Fluoranthene	20 U
50-32-8-----	Benzo(a)Pyrene	20 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	20 U
53-70-3-----	Dibenz(a,h)Anthracene	20 U
191-24-2-----	Benzo(g,h,i)Perylene	20 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010605

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NOT IDENTIFIED	6.72	160	J
2.	NOT IDENTIFIED	11.32	10	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396004

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010606

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	460 E
111-44-4-----	bis(2-Chloroethyl)Ether	20 U
95-57-8-----	2-Chlorophenol	20 U
541-73-1-----	1,3-Dichlorobenzene	20 U
106-46-7-----	1,4-Dichlorobenzene	20 U
95-50-1-----	1,2-Dichlorobenzene	20 U
95-48-7-----	2-Methylphenol	52
108-60-1-----	2,2'-oxybis(1-Chloropropane)	20 U
106-44-5-----	4-Methylphenol	150
621-64-7-----	N-Nitroso-Di-n-Propylamine	20 U
67-72-1-----	Hexachloroethane	20 U
98-95-3-----	Nitrobenzene	20 U
78-59-1-----	Isophorone	20 U
88-75-5-----	2-Nitrophenol	20 U
105-67-9-----	2,4-Dimethylphenol	7 J
111-91-1-----	bis(2-Chloroethoxy)Methane	20 U
120-83-2-----	2,4-Dichlorophenol	20 U
120-82-1-----	1,2,4-Trichlorobenzene	20 U
91-20-3-----	Naphthalene	20 U
106-47-8-----	4-Chloroaniline	20 U
87-68-3-----	Hexachlorobutadiene	20 U
59-50-7-----	4-Chloro-3-Methylphenol	20 U
91-57-6-----	2-Methylnaphthalene	20 U
77-47-4-----	Hexachlorocyclopentadiene	20 U
88-06-2-----	2,4,6-Trichlorophenol	20 U
95-95-4-----	2,4,5-Trichlorophenol	50 U
91-58-7-----	2-Choronaphthalene	20 U
88-74-4-----	2-Nitroaniline	50 U
131-11-3-----	Dimethylphthalate	20 U
208-96-8-----	Acenaphthylene	5 J
606-20-2-----	2,6-Dinitrotoluene	20 U
99-09-2-----	3-Nitroaniline	50 U
83-32-9-----	Acenaphthene	100

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21396004Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010606Level: (low/med) LOW Date Received: 04/08/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92Injection Volume: 2.0(uL) Dilution Factor: 2.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	50 U
100-02-7-----	4-Nitrophenol	50 U
132-64-9-----	Dibenzofuran	25
121-14-2-----	2,4-Dinitrotoluene	20
84-66-2-----	Diethylphthalate	20
7005-72-3-----	4-Chlorophenyl-phenylether	20
86-73-7-----	Fluorene	62
100-10-6-----	4-Nitroaniline	50 U
534-52-1-----	4,6-Dinitro-2-methylphenol	50 U
86-30-6-----	N-Nitrosodiphenylamine (1)	20 U
101-55-3-----	4-Bromophenyl-phenylether	20 U
118-74-1-----	Hexachlorobenzene	20 U
87-86-5-----	Pentachlorophenol	50 U
85-01-8-----	Phenanthrene	43
120-12-7-----	Anthracene	9 J
86-74-8-----	Carbazole	12 J
84-74-2-----	Di-n-Butylphthalate	8 BJ
206-44-0-----	Fluoranthene	45
129-00-0-----	Pyrene	32
85-68-7-----	Butylbenzylphthalate	20 U
91-94-1-----	3,3'-Dichlorobenzidine	20 U
56-55-3-----	Benzo(a)Anthracene	7 J
218-01-9-----	Chrysene	11 J
117-81-7-----	bis(2-Ethylhexyl)Phthalate	2 J
117-84-0-----	Di-n-Octyl Phthalate	20 U
205-99-2-----	Benzo(b)Fluoranthene	3 J
207-08-9-----	Benzo(k)Fluoranthene	3 J
50-32-8-----	Benzo(a)Pyrene	3 J
193-39-5-----	Indeno(1,2,3-cd)Pyrene	20 U
53-70-3-----	Dibenz(a,h)Anthracene	20 U
191-24-2-----	Benzo(g,h,i)Perylene	20 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010606

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 6

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 573-98-8	NAPHTHALENE, 1,2-DIMETHYL-	18.25	8	J
2.	NOT IDENTIFIED	20.45	10	J
3. 7320-53-8	DIBENZOFURAN, 4-METHYL-	20.65	9	J
4. 3218-36-8	[1,1'-BIPHENYL]-4-CARBOXALDE	20.82	10	J
5. 132-65-0	DIBENZOTHIOPHENE	22.34	9	J
6.	NOT IDENTIFIED	24.24	16	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1_DL

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396004DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010617

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 8.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	450 D
111-44-4-----	bis(2-Chloroethyl)Ether	80 U
95-57-8-----	2-Chlorophenol	80 U
541-73-1-----	1,3-Dichlorobenzene	80 U
106-46-7-----	1,4-Dichlorobenzene	80 U
95-50-1-----	1,2-Dichlorobenzene	80 U
95-48-7-----	2-Methylphenol	48 DJ
108-60-1-----	2,2'-oxybis(1-Chloropropane)	80 U
106-44-5-----	4-Methylphenol	140 D
621-64-7-----	N-Nitroso-Di-n-Propylamine	80 U
67-72-1-----	Hexachloroethane	80 U
98-95-3-----	Nitrobenzene	80 U
78-59-1-----	Isophorone	80 U
88-75-5-----	2-Nitrophenol	80 U
105-67-9-----	2,4-Dimethylphenol	80 U
111-91-1-----	bis(2-Chloroethoxy)Methane	80 U
120-83-2-----	2,4-Dichlorophenol	80 U
120-82-1-----	1,2,4-Trichlorobenzene	80 U
91-20-3-----	Naphthalene	80 U
106-47-8-----	4-Chloroaniline	80 U
87-68-3-----	Hexachlorobutadiene	80 U
59-50-7-----	4-Chloro-3-Methylphenol	80 U
91-57-6-----	2-Methylnaphthalene	80 U
77-47-4-----	Hexachlorocyclopentadiene	80 U
88-06-2-----	2,4,6-Trichlorophenol	80 U
95-95-4-----	2,4,5-Trichlorophenol	200 U
91-58-7-----	2-Chloronaphthalene	80 U
88-74-4-----	2-Nitroaniline	200 U
131-11-3-----	Dimethylphthalate	80 U
208-96-8-----	Acenaphthylene	80 U
606-20-2-----	2,6-Dinitrotoluene	80 U
99-09-2-----	3-Nitroaniline	200 U
83-32-9-----	Acenaphthene	130 D

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1_DL

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396004DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010617

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 8.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	200 U
100-02-7-----	4-Nitrophenol	200 U
132-64-9-----	Dibenzofuran	30 DJ
121-14-2-----	2,4-Dinitrotoluene	80 U
84-66-2-----	Diethylphthalate	80 U
7005-72-3-----	4-Chlorophenyl-phenylether	80 U
86-73-7-----	Fluorene	79 DJ
100-10-6-----	4-Nitroaniline	200 U
534-52-1-----	4,6-Dinitro-2-methylphenol	200 U
86-30-6-----	N-Nitrosodiphenylamine (1)	80 U
101-55-3-----	4-Bromophenyl-phenylether	80 U
118-74-1-----	Hexachlorobenzene	80 U
87-86-5-----	Pentachlorophenol	200 U
85-01-8-----	Phenanthrene	58 DJ
120-12-7-----	Anthracene	11 DJ
86-74-8-----	Carbazole	14 DJ
84-74-2-----	Di-n-Butylphthalate	11 BDJ
206-44-0-----	Fluoranthene	60 DJ
129-00-0-----	Pyrene	36 DJ
85-68-7-----	Butylbenzylphthalate	80 U
91-94-1-----	3,3'-Dichlorobenzidine	80 U
56-55-3-----	Benzo(a)Anthracene	80 U
218-01-9-----	Chrysene	12 DJ
117-81-7-----	bis(2-Ethylhexyl)Phthalate	80 U
117-84-0-----	Di-n-Octyl Phthalate	80 U
205-99-2-----	Benzo(b)Fluoranthene	80 U
207-08-9-----	Benzo(k)Fluoranthene	80 U
50-32-8-----	Benzo(a)Pyrene	80 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	80 U
53-70-3-----	Dibenz(a,h)Anthracene	80 U
191-24-2-----	Benzo(g,h,i)Perylene	80 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: <u>CH2M HILL/MGM</u>	Contract: _____	MW4S-1_DL	
Code: _____	Case No.: <u>21396</u>	SAS No.: _____	SDG No.: _____
Matrix: (soil/water) <u>WATER</u>		Lab Sample ID: <u>21396004DL</u>	
Sample wt/vol:	<u>1000</u> (g/mL) <u>ML</u>	Lab File ID:	<u>D2BA010617</u>
Level:	(low/med) <u>LOW</u>	Date Received:	<u>04/08/92</u>
% Moisture:	decanted: (Y/N) _____	Date Extracted:	<u>04/09/92</u>
Concentrated Extract Volume: <u>1000</u> (uL)		Date Analyzed:	<u>04/22/92</u>
Injection Volume: <u>2.0</u> (uL)		Dilution Factor:	<u>8.0</u>
GPC Cleanup: (Y/N) <u>N</u>	pH: _____		

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NOT IDENTIFIED	24.12	22	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010609

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 20000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
108-95-2-----	Phenol	1500000	
111-44-4-----	bis(2-Chloroethyl)Ether	200000	U
95-57-8-----	2-Chlorophenol	200000	U
541-73-1-----	1,3-Dichlorobenzene	200000	U
106-46-7-----	1,4-Dichlorobenzene	200000	U
95-50-1-----	1,2-Dichlorobenzene	200000	U
95-48-7-----	2-Methylphenol	170000	J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	200000	U
106-44-5-----	4-Methylphenol	710000	
621-64-7-----	N-Nitroso-Di-n-Propylamine	200000	U
67-72-1-----	Hexachloroethane	200000	U
98-95-3-----	Nitrobenzene	200000	U
78-59-1-----	Isophorone	200000	U
88-75-5-----	2-Nitrophenol	200000	U
105-67-9-----	2,4-Dimethylphenol	41000	J
111-91-1-----	bis(2-Chloroethoxy)Methane	200000	U
120-83-2-----	2,4-Dichlorophenol	200000	U
120-82-1-----	1,2,4-Trichlorobenzene	200000	U
91-20-3-----	Naphthalene	200000	U
106-47-8-----	4-Chloroaniline	200000	U
87-68-3-----	Hexachlorobutadiene	200000	U
59-50-7-----	4-Chloro-3-Methylphenol	200000	U
91-57-6-----	2-Methylnaphthalene	200000	U
77-47-4-----	Hexachlorocyclopentadiene	200000	U
88-06-2-----	2,4,6-Trichlorophenol	200000	U
95-95-4-----	2,4,5-Trichlorophenol	500000	U
91-58-7-----	2-Choronaphthalene	200000	U
88-74-4-----	2-Nitroaniline	500000	U
131-11-3-----	Dimethylphthalate	200000	U
208-96-8-----	Acenaphthylene	200000	U
606-20-2-----	2,6-Dinitrotoluene	200000	U
99-09-2-----	3-Nitroaniline	500000	U
83-32-9-----	Acenaphthene	200000	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21396005Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010609Level: (low/med) LOW Date Received: 04/08/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92Injection Volume: 2.0(uL) Dilution Factor: 20000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	500000 U
100-02-7-----	4-Nitrophenol	500000 U
132-64-9-----	Dibenzofuran	200000 U
121-14-2-----	2,4-Dinitrotoluene	200000 U
84-66-2-----	Diethylphthalate	200000 U
7005-72-3-----	4-Chlorophenyl-phenylether	200000 U
86-73-7-----	Fluorene	200000 U
100-10-6-----	4-Nitroaniline	500000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	500000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	200000 U
101-55-3-----	4-Bromophenyl-phenylether	200000 U
118-74-1-----	Hexachlorobenzene	200000 U
87-86-5-----	Pentachlorophenol	500000 U
85-01-8-----	Phenanthrene	200000 U
120-12-7-----	Anthracene	200000 U
86-74-8-----	Carbazole	200000 U
84-74-2-----	Di-n-Butylphthalate	200000 U
206-44-0-----	Fluoranthene	200000 U
129-00-0-----	Pyrene	200000 U
85-68-7-----	Butylbenzylphthalate	200000 U
91-94-1-----	3,3'-Dichlorobenzidine	200000 U
56-55-3-----	Benzo(a)Anthracene	200000 U
218-01-9-----	Chrysene	200000 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	200000 U
117-84-0-----	Di-n-Octyl Phthalate	200000 U
205-99-2-----	Benzo(b)Fluoranthene	200000 U
207-08-9-----	Benzo(k)Fluoranthene	200000 U
50-32-8-----	Benzo(a)Pyrene	200000 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	200000 U
53-70-3-----	Dibenz(a,h)Anthracene	200000 U
191-24-2-----	Benzo(g,h,i)Perylene	200000 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW4D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396005

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010609

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 20000.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010611

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
108-95-2-----	Phenol	320000	
111-44-4-----	bis(2-Chloroethyl)Ether	50000	U
95-57-8-----	2-Chlorophenol	50000	U
541-73-1-----	1,3-Dichlorobenzene	50000	U
106-46-7-----	1,4-Dichlorobenzene	50000	U
95-50-1-----	1,2-Dichlorobenzene	50000	U
95-48-7-----	2-Methylphenol	34000	J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	50000	U
106-44-5-----	4-Methylphenol	150000	
621-64-7-----	N-Nitroso-Di-n-Propylamine	50000	U
67-72-1-----	Hexachloroethane	50000	U
98-95-3-----	Nitrobenzene	50000	U
78-59-1-----	Isophorone	50000	U
88-75-5-----	2-Nitrophenol	50000	U
105-67-9-----	2,4-Dimethylphenol	7600	J
111-91-1-----	bis(2-Chloroethoxy)Methane	50000	U
120-83-2-----	2,4-Dichlorophenol	50000	U
120-82-1-----	1,2,4-Trichlorobenzene	50000	U
91-20-3-----	Naphthalene	50000	U
106-47-8-----	4-Chloroaniline	50000	U
87-68-3-----	Hexachlorobutadiene	50000	U
59-50-7-----	4-Chloro-3-Methylphenol	50000	U
91-57-6-----	2-Methylnaphthalene	50000	U
77-47-4-----	Hexachlorocyclopentadiene	50000	U
88-06-2-----	2,4,6-Trichlorophenol	50000	U
95-95-4-----	2,4,5-Trichlorophenol	120000	U
91-58-7-----	2-Chloronaphthalene	50000	U
88-74-4-----	2-Nitroaniline	120000	U
131-11-3-----	Dimethylphthalate	50000	U
208-96-8-----	Acenaphthylene	50000	U
606-20-2-----	2,6-Dinitrotoluene	50000	U
99-09-2-----	3-Nitroaniline	120000	U
83-32-9-----	Acenaphthene	50000	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

M-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21396

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396006

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010611

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	UG/L	Q
51-28-5-----	2,4-Dinitrophenol	120000	U
100-02-7-----	4-Nitrophenol	120000	U
132-64-9-----	Dibenzofuran	50000	U
121-14-2-----	2,4-Dinitrotoluene	50000	U
84-66-2-----	Diethylphthalate	50000	U
7005-72-3-----	4-Chlorophenyl-phenylether	50000	U
86-73-7-----	Fluorene	50000	U
100-10-6-----	4-Nitroaniline	120000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	120000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	50000	U
101-55-3-----	4-Bromophenyl-phenylether	50000	U
118-74-1-----	Hexachlorobenzene	50000	U
87-86-5-----	Pentachlorophenol	120000	U
85-01-8-----	Phenanthrene	50000	U
120-12-7-----	Anthracene	50000	U
86-74-8-----	Carbazole	50000	U
84-74-2-----	Di-n-Butylphthalate	50000	U
206-44-0-----	Fluoranthene	50000	U
129-00-0-----	Pyrene	50000	U
85-68-7-----	Butylbenzylphthalate	50000	U
91-94-1-----	3,3'-Dichlorobenzidine	50000	U
56-55-3-----	Benzo(a)Anthracene	50000	U
218-01-9-----	Chrysene	50000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	50000	U
117-84-0-----	Di-n-Octyl Phthalate	50000	U
205-99-2-----	Benzo(b)Fluoranthene	50000	U
207-08-9-----	Benzo(k)Fluoranthene	50000	U
50-32-8-----	Benzo(a)Pyrene	50000	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	50000	U
53-70-3-----	Dibenz(a,h)Anthracene	50000	U
191-24-2-----	Benzo(g,h,i)Perylene	50000	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396006

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010611

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396001

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	-----------------------------	---

319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

JWS

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW3D-1

Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	UG/L	Q
319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	5.0	U
11104-28-2-----	Aroclor-1221	10	U
11141-16-5-----	Aroclor-1232	5.0	U
53469-21-9-----	Aroclor-1242	5.0	U
12672-29-6-----	Aroclor-1248	5.0	U
11097-69-1-----	Aroclor-1254	5.0	U
11096-82-5-----	Aroclor-1260	5.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-1

Lab Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4S-1

Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396004

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

319-84-6-----alpha-BHC	0.050	U
319-85-7-----beta-BHC	0.050	U
319-86-8-----delta-BHC	0.050	U
58-89-9-----gamma-BHC (Lindane)	0.050	U
76-44-8-----Heptachlor	0.050	U
309-00-2-----Aldrin	0.050	U
1024-57-3-----Heptachlor epoxide	0.050	U
959-98-8-----Endosulfan I	0.050	U
60-57-1-----Dieldrin	0.10	U
72-55-9-----4,4'-DDE	0.10	U
72-20-8-----Endrin	0.10	U
33213-65-9-----Endosulfan II	0.10	U
72-54-8-----4,4'-DDD	0.10	U
1031-07-8-----Endosulfan sulfate	0.10	U
50-29-3-----4,4'-DDT	0.10	U
72-43-5-----Methoxychlor	0.50	U
53494-70-5-----Endrin ketone	0.10	U
7421-36-3-----Endrin aldehyde	0.10	U
5103-71-9-----alpha-Chlordane	0.050	U
5103-74-2-----gamma-Chlordane	0.050	U
8001-35-2-----Toxaphene	5.0	U
12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	2.0	U
11141-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1

Lab Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21396005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	5.0	U
11104-28-2-----	Aroclor-1221	10	U
11141-16-5-----	Aroclor-1232	5.0	U
53469-21-9-----	Aroclor-1242	5.0	U
12672-29-6-----	Aroclor-1248	5.0	U
11097-69-1-----	Aroclor-1254	5.0	U
11096-82-5-----	Aroclor-1260	5.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW4D-1DL

Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21396005DLSample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/08/92Extraction: (SepF/Cont/Sonc) SEPFDate Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92Injection Volume: 2.00 (uL)Dilution Factor: 5.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>319-84-6-----alpha-BHC</u>	<u>0.25</u>	<u>U</u>
<u>319-85-7-----beta-BHC</u>	<u>0.25</u>	<u>U</u>
<u>319-86-8-----delta-BHC</u>	<u>0.25</u>	<u>U</u>
<u>58-89-9-----gamma-BHC (Lindane)</u>	<u>0.25</u>	<u>U</u>
<u>76-44-8-----Heptachlor</u>	<u>0.25</u>	<u>U</u>
<u>309-00-2-----Aldrin</u>	<u>0.25</u>	<u>U</u>
<u>1024-57-3-----Heptachlor epoxide</u>	<u>0.25</u>	<u>U</u>
<u>959-98-8-----Endosulfan I</u>	<u>0.25</u>	<u>U</u>
<u>60-57-1-----Dieldrin</u>	<u>0.50</u>	<u>U</u>
<u>72-55-9-----4,4'-DDE</u>	<u>0.50</u>	<u>U</u>
<u>72-20-8-----Endrin</u>	<u>0.50</u>	<u>U</u>
<u>33213-65-9-----Endosulfan II</u>	<u>0.50</u>	<u>U</u>
<u>72-54-8-----4,4'-DDD</u>	<u>0.50</u>	<u>U</u>
<u>1031-07-8-----Endosulfan sulfate</u>	<u>0.50</u>	<u>U</u>
<u>50-29-3-----4,4'-DDT</u>	<u>0.50</u>	<u>U</u>
<u>72-43-5-----Methoxychlor</u>	<u>2.5</u>	<u>U</u>
<u>53494-70-5-----Endrin ketone</u>	<u>0.50</u>	<u>U</u>
<u>7421-36-3-----Endrin aldehyde</u>	<u>0.50</u>	<u>U</u>
<u>5103-71-9-----alpha-Chlordane</u>	<u>0.25</u>	<u>U</u>
<u>5103-74-2-----gamma-Chlordane</u>	<u>0.25</u>	<u>U</u>
<u>8001-35-2-----Toxaphene</u>	<u>25</u>	<u>U</u>
<u>12674-11-2-----Aroclor-1016</u>	<u>5.0</u>	<u>U</u>
<u>11104-28-2-----Aroclor-1221</u>	<u>10</u>	<u>U</u>
<u>11141-16-5-----Aroclor-1232</u>	<u>5.0</u>	<u>U</u>
<u>53469-21-9-----Aroclor-1242</u>	<u>5.0</u>	<u>U</u>
<u>12672-29-6-----Aroclor-1248</u>	<u>5.0</u>	<u>U</u>
<u>11097-69-1-----Aroclor-1254</u>	<u>5.0</u>	<u>U</u>
<u>11096-82-5-----Aroclor-1260</u>	<u>5.0</u>	<u>U</u>

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

M-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M

Case No.: 21396

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21396006

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/08/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/09/92

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 05/05/92

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	5.0	U
11104-28-2-----	Aroclor-1221	10	U
11141-16-5-----	Aroclor-1232	5.0	U
53469-21-9-----	Aroclor-1242	5.0	U
12672-29-6-----	Aroclor-1248	5.0	U
11097-69-1-----	Aroclor-1254	5.0	U
11096-82-5-----	Aroclor-1260	5.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-1DL

Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21396006DLSample wt/vol: 1000 (g/mL) ML Lab File ID: _____% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/08/92Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92Injection Volume: 2.00 (uL) Dilution Factor: 5.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6-----	alpha-BHC	0.25	U
319-85-7-----	beta-BHC	0.25	U
319-86-8-----	delta-BHC	0.25	U
58-89-9-----	gamma-BHC (Lindane)	0.25	U
76-44-8-----	Heptachlor	0.25	U
309-00-2-----	Aldrin	0.25	U
1024-57-3-----	Heptachlor epoxide	0.25	U
959-98-8-----	Endosulfan I	0.25	U
60-57-1-----	Dieldrin	0.50	U
72-55-9-----	4,4'-DDE	0.50	U
72-20-8-----	Endrin	0.50	U
33213-65-9-----	Endosulfan II	0.50	U
72-54-8-----	4,4'-DDD	0.50	U
1031-07-8-----	Endosulfan sulfate	0.50	U
50-29-3-----	4,4'-DDT	0.50	U
72-43-5-----	Methoxychlor	2.5	U
53494-70-5-----	Endrin ketone	0.50	U
7421-36-3-----	Endrin aldehyde	0.50	U
5103-71-9-----	alpha-Chlordane	0.25	U
5103-74-2-----	gamma-Chlordane	0.25	U
8001-35-2-----	Toxaphene	25	U
12674-11-2-----	Aroclor-1016	5.0	U
11104-28-2-----	Aroclor-1221	10	U
11141-16-5-----	Aroclor-1232	5.0	U
53469-21-9-----	Aroclor-1242	5.0	U
12672-29-6-----	Aroclor-1248	5.0	U
11097-69-1-----	Aroclor-1254	5.0	U
11096-82-5-----	Aroclor-1260	5.0	U

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21396

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01 FB-1	89	97	97	0	0
02 M-1	95	97	101	0	0
03 M-1_DL	94	98	99	0	0
04 MW3D-1	97	101	99	0	0
05 MW3D-1_DL	93	100	97	0	0
06 MW3S-1	101	103	103	0	0
07 MW4D-1	98	100	106	0	0
08 MW4D-1_DL	94	99	100	0	0
09 MW4S-1	97	101	104	0	0
10 TB-1	99	102	106	0	0
11 VBLKW	100	99	102	0	0
12 VBLKW_2	94	94	98	0	0
13 VBLKW_3	92	95	98	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)

SMC2 (BFB) = Bromofluorobenzene (86-115)

SMC3 (DCE) = 1,2-Dichloroethane-d4(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

I-H Code: _____

Case No.: 21396

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01 FB-1	80	55	74	96	91	62	87	54	0
02 M-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
03 MW3D-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
04 MW3D-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
05 MW3S-1	71	51	62	87	81	61	79	43	0
06 MW4D-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
07 MW4S-1	81	49	58	100	100	65	88	50	0
08 MW4S-1_DL	79	58	60	95	82	66	88	56	0
09 SBLKW	53	51	54	68	67	42	63	41	0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-110)
S5 (2FP) = 2-Fluorophenol	(21-110)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)
S7 (2CP) = 2-Chlorophenol-d4	(33-110) (advisory)
S8 (DCB) = 1,2-Dichlorobenzene-d4	(16-110) (advisory)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M

Case No.: 21396

SAS No.: _____

SDG No.: _____

GC Column(1): SPB-5

ID: 0.53(mm)

GC Column(2): SPB-608

ID: 0.53(mm)

	EPA SAMPLE NO.	TCX %REC #	TCX %REC #	DCB %REC #	DCB %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK09	67	58*	80	79			1
02	FB-1	67	61	65	61			0
03	M-1	102	86	88	83			0
04	M-1DL	78	90	74	60			0
05	MW3D-1	103	107	72	68			0
06	MW3S-1	72	69	74	73			0
07	MW4D-1	67	80	83	88			0
08	MW4D-1DL	82	80	99	91			0
09	MW4S-1	52*	55*	70	68			2

ADVISORY

QC LIMITS

(60-150)

TCX = Tetrachloro-m-xylene

(60-150)

DCB = Decachlorobiphenyl

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____Lab File ID: CBVO021441 Lab Sample ID: X04132B1Date Analyzed: 04/13/92 Time Analyzed: 1615GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) YInstrument ID: 4500

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	TB-1	21396007	C1V0021450	2115

COMMENTS: CLP, 21396,, VBLKW, L, W, X04132B1, V, BLANK,
10DG TO 160DG @4DG/MIN IH=7MIN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: X04132B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CBVO021441

Level: (low/med) LOW Date Received: 04/13/92

% Moisture: not dec. Date Analyzed: 04/13/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3-----Chloromethane	10	U
74-83-9-----Bromomethane	10	U
75-01-4-----Vinyl Chloride	10	U
75-00-3-----Chloroethane	10	U
75-09-2-----Methylene Chloride	5	J
67-64-1-----Acetone	3	J
75-15-0-----Carbon Disulfide	10	U
75-35-4-----1,1-Dichloroethene	10	U
75-34-3-----1,1-Dichloroethane	10	U
540-59-0-----1,2-Dichloroethene (total)	10	U
67-66-3-----Chloroform	10	U
107-06-2-----1,2-Dichloroethane	10	U
78-93-3-----2-Butanone	10	U
71-55-6-----1,1,1-Trichloroethane	10	U
56-23-5-----Carbon Tetrachloride	10	U
75-27-4-----Bromodichloromethane	10	U
78-87-5-----1,2-Dichloropropane	10	U
10061-01-5-----cis-1,3-Dichloropropene	10	U
79-01-6-----Trichloroethene	10	U
124-48-1-----Dibromochloromethane	10	U
79-00-5-----1,1,2-Trichloroethane	10	U
71-43-2-----Benzene	10	U
10061-02-6-----trans-1,3-Dichloropropene	10	U
75-25-2-----Bromoform	10	U
591-78-6-----2-Hexanone	10	U
108-10-1-----4-Methyl-2-Pentanone	10	U
127-18-4-----Tetrachloroethene	10	U
79-34-5-----1,1,2,2-Tetrachloroethane	10	U
108-88-3-----Toluene	10	U
108-90-7-----Chlorobenzene	10	U
100-41-4-----Ethylbenzene	10	U
100-42-5-----Styrene	10	U
1330-20-7-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: X04132B1

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CBVO021441

Level: (low/med) LOW

Date Received: 04/13/92

% Moisture: not dec. _____

Date Analyzed: 04/13/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKW_2

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21396

SAS No.: _____

SDG No.: _____

Lab File ID: CBV0021477Lab Sample ID: X04152B1Date Analyzed: 04/15/92Time Analyzed: 0739GC Column: CAP ID: 0.530(mm)Heated Purge: (Y/N) YInstrument ID: 4500

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 FB-1	21396003	C1V0021478	0816
02 M-1	21396006	C1V0021487	1324
03 MW3D-1	21396002	C1V0021483	1106
04 MW3S-1	21396001	C2V0021481	0957
05 MW4D-1	21396005	C1V0021486	1250
06 MW4S-1	21396004	C1V0021482	1033

COMMENTS: CLP, 21396,,VBLKW,L,W,X04152B1,V,B,
10DG TO 160DG @4DG/MIN IH=7MIN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW_2

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: X04152B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CBVO021477

Level: (low/med) LOW Date Received: 04/15/92

% Moisture: not dec. _____ Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
		10	U	
74-87-3-----	Chloromethane	10	U	
74-83-9-----	Bromomethane	10	U	
75-01-4-----	Vinyl Chloride	10	U	
75-00-3-----	Chloroethane	10	U	
75-09-2-----	Methylene Chloride	4	J	
67-64-1-----	Acetone	10	U	
75-15-0-----	Carbon Disulfide	10	U	
75-35-4-----	1,1-Dichloroethene	10	U	
75-34-3-----	1,1-Dichloroethane	10	U	
540-59-0-----	1,2-Dichloroethene (total)	10	U	
67-66-3-----	Chloroform	10	U	
107-06-2-----	1,2-Dichloroethane	10	U	
78-93-3-----	2-Butanone	10	U	
71-55-6-----	1,1,1-Trichloroethane	10	U	
56-23-5-----	Carbon Tetrachloride	10	U	
75-27-4-----	Bromodichloromethane	10	U	
78-87-5-----	1,2-Dichloropropane	10	U	
10061-01-5-----	cis-1,3-Dichloropropene	10	U	
79-01-6-----	Trichloroethene	10	U	
124-48-1-----	Dibromochloromethane	10	U	
79-00-5-----	1,1,2-Trichloroethane	10	U	
71-43-2-----	Benzene	10	U	
10061-02-6-----	trans-1,3-Dichloropropene	10	U	
75-25-2-----	Bromoform	10	U	
591-78-6-----	2-Hexanone	10	U	
108-10-1-----	4-Methyl-2-Pentanone	10	U	
127-18-4-----	Tetrachloroethene	10	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U	
108-88-3-----	Toluene	10	U	
108-90-7-----	Chlorobenzene	10	U	
100-41-4-----	Ethylbenzene	10	U	
100-42-5-----	Styrene	10	U	
1330-20-7-----	Xylene (total)	10	U	

^{1E}
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKW_2

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: X04152B1

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CBV0021477

Level: (low/med) LOW

Date Received: 04/15/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556-67-2	CYCLOTETRAZILOXANE, OCTAMETH	19.60	14	J
2.	NOT IDENTIFIED	22.70	10	J

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW_3

Code: Case No.: 21396 SAS No.: _____ SDG No.: _____Lab File ID: CBVO021540 Lab Sample ID: X04202B1Date Analyzed: 04/20/92 Time Analyzed: 0857GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) YInstrument ID: 4500

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 M-1_DL	21396006DL	C2VO021541	0955
02 MW3D-1_DL	21396002DL	C3VO021543	1057
03 MW4D-1_DL	21396005DL	C3VO021542	1026

COMMENTS: CLP, 21396,, VBLKW, L, W, X04202B1, V, B,
10DG TO 200DG @8DG/MIN IH=3MIN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW_3

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: X04202B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CBVO021540

Level: (low/med) LOW Date Received: 04/20/92

% Moisture: not dec. Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3-----Chloromethane	10	U
74-83-9-----Bromomethane	10	U
75-01-4-----Vinyl Chloride	10	U
75-00-3-----Chloroethane	10	U
75-09-2-----Methylene Chloride	5	J
67-64-1-----Acetone	4	J
75-15-0-----Carbon Disulfide	10	U
75-35-4-----1,1-Dichloroethene	10	U
75-34-3-----1,1-Dichloroethane	10	U
540-59-0-----1,2-Dichloroethene (total)	10	U
67-66-3-----Chloroform	10	U
107-06-2-----1,2-Dichloroethane	10	U
78-93-3-----2-Butanone	5	J
71-55-6-----1,1,1-Trichloroethane	10	U
56-23-5-----Carbon Tetrachloride	10	U
75-27-4-----Bromodichloromethane	10	U
78-87-5-----1,2-Dichloropropane	10	U
10061-01-5-----cis-1,3-Dichloropropene	10	U
79-01-6-----Trichloroethene	10	U
124-48-1-----Dibromochloromethane	10	U
79-00-5-----1,1,2-Trichloroethane	10	U
71-43-2-----Benzene	10	U
10061-02-6-----trans-1,3-Dichloropropene	10	U
75-25-2-----Bromoform	10	U
591-78-6-----2-Hexanone	10	U
108-10-1-----4-Methyl-2-Pentanone	10	U
127-18-4-----Tetrachloroethene	10	U
79-34-5-----1,1,2,2-Tetrachloroethane	10	U
108-88-3-----Toluene	10	U
108-90-7-----Chlorobenzene	10	U
100-41-4-----Ethylbenzene	10	U
100-42-5-----Styrene	10	U
1330-20-7-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW_3

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: X04202B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CBVO021540

Level: (low/med) LOW Date Received: 04/20/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Lab Code: _____

Case No.: 21396

SAS No.: _____

SDG No.: _____

Lab File ID: DBBA010614

Lab Sample ID: C04092B1

Instrument ID: 5100D

Date Extracted: 04/09/92

Matrix: (soil/water) WATER

Date Analyzed: 04/21/92

Level: (low/med) LOW

Time Analyzed: 1950

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	FB-1	21396003	D1BA010605	04/21/92
02	M-1	21396006	D1BA010611	04/21/92
03	MW3D-1	21396002	D1BA010608	04/21/92
04	MW3D-1_DL	21396002DL	D2BA010618	04/22/92
05	MW3S-1	21396001	D1BA010604	04/21/92
06	MW4D-1	21396005	D1BA010609	04/21/92
07	MW4S-1	21396004	D1BA010606	04/21/92
08	MW4S-1_DL	21396004DL	D2BA010617	04/22/92

COMMENTS: CLP, 21396,, SBLKW, L, W, C04092B1, B, BLANK,
30DG TO 310DG @10DG/MIN IH=4MINS

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: C04092B1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: DBBA010614

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	10 U
111-44-4-----	bis(2-Chloroethyl)Ether	10 U
95-57-8-----	2-Chlorophenol	10 U
541-73-1-----	1,3-Dichlorobenzene	10 U
106-46-7-----	1,4-Dichlorobenzene	10 U
95-50-1-----	1,2-Dichlorobenzene	10 U
95-48-7-----	2-Methylphenol	10 U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10 U
106-44-5-----	4-Methylphenol	10 U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10 U
67-72-1-----	Hexachloroethane	10 U
98-95-3-----	Nitrobenzene	10 U
78-59-1-----	Isophorone	10 U
88-75-5-----	2-Nitrophenol	10 U
105-67-9-----	2,4-Dimethylphenol	10 U
111-91-1-----	bis(2-Chloroethoxy)Methane	10 U
120-83-2-----	2,4-Dichlorophenol	10 U
120-82-1-----	1,2,4-Trichlorobenzene	10 U
91-20-3-----	Naphthalene	10 U
106-47-8-----	4-Chloroaniline	10 U
87-68-3-----	Hexachlorobutadiene	10 U
59-50-7-----	4-Chloro-3-Methylphenol	10 U
91-57-6-----	2-Methylnaphthalene	10 U
77-47-4-----	Hexachlorocyclopentadiene	10 U
88-06-2-----	2,4,6-Trichlorophenol	10 U
95-95-4-----	2,4,5-Trichlorophenol	25 U
91-58-7-----	2-Chloronaphthalene	10 U
88-74-4-----	2-Nitroaniline	25 U
131-11-3-----	Dimethylphthalate	10 U
208-96-8-----	Acenaphthylene	10 U
606-20-2-----	2,6-Dinitrotoluene	10 U
99-09-2-----	3-Nitroaniline	25 U
83-32-9-----	Acenaphthene	10 U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Lab Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: C04092B1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: DBBA010614

Level: (low/med) LOW

Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	25 U
100-02-7-----	4-Nitrophenol	25 U
132-64-9-----	Dibenzofuran	10 U
121-14-2-----	2,4-Dinitrotoluene	10 U
84-66-2-----	Diethylphthalate	10 U
7005-72-3-----	4-Chlorophenyl-phenylether	10 U
86-73-7-----	Fluorene	10 U
100-10-6-----	4-Nitroaniline	25 U
534-52-1-----	4,6-Dinitro-2-methylphenol	25 U
86-30-6-----	N-Nitrosodiphenylamine (1)	10 U
101-55-3-----	4-Bromophenyl-phenylether	10 U
118-74-1-----	Hexachlorobenzene	10 U
87-86-5-----	Pentachlorophenol	25 U
85-01-8-----	Phenanthrene	10 U
120-12-7-----	Anthracene	10 U
86-74-8-----	Carbazole	10 U
84-74-2-----	Di-n-Butylphthalate	4 J
206-44-0-----	Fluoranthene	10 U
129-00-0-----	Pyrene	10 U
85-68-7-----	Butylbenzylphthalate	10 U
91-94-1-----	3,3'-Dichlorobenzidine	10 U
56-55-3-----	Benzo(a)Anthracene	10 U
218-01-9-----	Chrysene	10 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10 U
117-84-0-----	Di-n-Octyl Phthalate	10 U
205-99-2-----	Benzo(b)Fluoranthene	10 U
207-08-9-----	Benzo(k)Fluoranthene	10 U
50-32-8-----	Benzo(a)Pyrene	10 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3-----	Dibenz(a,h)Anthracene	10 U
191-24-2-----	Benzo(g,h,i)Perylene	10 U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Code: _____ Case No.: 21396 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: C04092B1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: DBBA010614

Level: (low/med) LOW Date Received: 04/08/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-94-1	CYCLOHEXANONE (ACN)	9.17	22	J
2.	NOT IDENTIFIED	11.25	14	J

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

PBLK09

Lab Code: CH2M Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab Sample ID: W04092B1

Lab File ID: _____

Matrix: (soil/water) WATERExtraction: (SepF/Cont/Sonc) SEPPSulfur Cleanup: (Y/N) YDate Extracted: 04/09/92Date Analyzed (1): 05/05/92Date Analyzed (2): 05/05/92Time Analyzed (1): 0930Time Analyzed (2): 0930Instrument ID (1): V6000AInstrument ID (2): V6000BGC Column (1): SPB-5 ID: 0.53 (mm) GC Column (2): SPB-608 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01 FB-1	21396003	05/05/92	05/05/92
02 M-1	21396006	05/05/92	05/05/92
03 M-1DL	21396006DL	05/05/92	05/05/92
04 MW3D-1	21396002	05/05/92	05/05/92
05 MW3S-1	21396001	05/05/92	05/05/92
06 MW4D-1	21396005	05/05/92	05/05/92
07 MW4D-1DL	21396005DL	05/05/92	05/05/92
08 MW4S-1	21396004	05/05/92	05/05/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

PBLK09

Code: CH2M Case No.: 21396 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: W04092B1Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): CSVH021438

Date Analyzed: 04/13/92

Instrument ID: 4500

Time Analyzed: 1433

GC Column: CAP ID: 0.530(mm)

Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
12 HOUR STD	72259	12.05	293916	13.52	245541	18.40
UPPER LIMIT	144518	12.55	587832	14.02	491082	18.90
LOWER LIMIT	36130	11.55	146958	13.02	122770	17.90
EPA SAMPLE NO.						
01 TB-1	63606	12.04	243463	13.50	217171	18.39
02 VBLKW	73445	11.97	282293	13.45	248734	18.35

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

✓ Case Code: _____ Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): CSV0021476

Date Analyzed: 04/15/92

Instrument ID: 4500

Time Analyzed: 0654

GC Column: CAP ID: 0.530(mm)

Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
12 HOUR STD	73510	12.17	299267	13.65	249990	18.52
UPPER LIMIT	147020	12.67	598534	14.15	499980	19.02
LOWER LIMIT	36755	11.67	149634	13.15	124995	18.02
EPA SAMPLE NO.						
01 FB-1	85570	12.14	338813	13.60	295684	18.50
02 M-1	73180	12.07	294657	13.55	255633	18.49
03 MW3D-1	82713	12.17	317693	13.64	275985	18.52
04 MW3S-1	79336	12.15	309598	13.62	271929	18.52
05 MW4D-1	75146	12.15	295649	13.62	256491	18.50
06 MW4S-1	79690	12.14	318663	13.62	275895	18.52
07 VBLKW_2	81710	12.12	314992	13.60	278798	18.50

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): CSV0021539

Date Analyzed: 04/20/92

Instrument ID: 4500

Time Analyzed: 0755

GC Column: CAP ID: 0.530(mm)

Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
12 HOUR STD	63339	12.14	256851	13.60	223443	18.50
UPPER LIMIT	126678	12.64	513702	14.10	446886	19.00
LOWER LIMIT	31670	11.64	128426	13.10	111722	18.00
EPA SAMPLE NO.						
01 M-1_DL	67370	12.09	252065	13.59	236815	18.50
02 MW3D-1_DL	60962	12.10	251433	13.59	216775	18.50
03 MW4D-1_DL	61100	12.12	242168	13.60	214377	18.49
04 VBLKW_3	70935	12.12	282561	13.60	246645	18.49

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

J. C. Code: _____

Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010601

Date Analyzed: 04/21/92

Instrument ID: 5100D

Time Analyzed: 0828

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	16974	11.47	54376	14.42	28958	18.82
UPPER LIMIT	33948	11.97	108752	14.92	57916	19.32
LOWER LIMIT	8487	10.97	27188	13.92	14479	18.32
EPA SAMPLE NO.						
01 FB-1	11816	11.49	44958	14.42	22821	18.84
02 M-1	10186	11.42	36312	14.42	17582	18.85
03 MW3D-1	10447	11.47	41717	14.42	21299	18.84
04 MW3S-1	11991	11.45	46546	14.40	22544	18.84
05 MW4D-1	10247	11.49	39551	14.44	19419	18.85
06 MW4S-1	9911	11.49	38393	14.44	21637	18.85
07 SBLKW	13023	11.42	53155	14.37	27618	18.79

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010601

Date Analyzed: 04/21/92

Instrument ID: 5100D

Time Analyzed: 0828

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	39214	22.59	33385	29.51	30213	33.19
UPPER LIMIT	78428	23.09	66770	30.01	60426	33.69
LOWER LIMIT	19607	22.09	16692	29.01	15106	32.69
EPA SAMPLE NO.						
01 FB-1	31840	22.59	24627	29.51	24012	33.21
02 M-1	25263	22.60	18749	29.54	21181	33.24
03 MW3D-1	30316	22.60	22906	29.52	23417	33.21
04 MW3S-1	32874	22.59	24855	29.52	24143	33.21
05 MW4D-1	26747	22.62	20217	29.54	21664	33.24
06 MW4S-1	33700	22.62	24717	29.54	23712	33.22
07 SBLKW	39489	22.55	28774	29.47	23961	32.92

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

* Case Code: _____

Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616

Date Analyzed: 04/22/92

Instrument ID: 5100D

Time Analyzed: 0904

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	17318	11.30	64323	14.30	38328	18.75
UPPER LIMIT	34636	11.80	128646	14.80	76656	19.25
LOWER LIMIT	8659	10.80	32162	13.80	19164	18.25
EPA SAMPLE NO.						
01 MW3D-1_DL	15419	11.27	59218	14.29	32525	18.74
02 MW4S-1_DL	14485	11.27	57014	14.29	33435	18.74

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21396

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616

Date Analyzed: 04/22/92

Instrument ID: 5100D

Time Analyzed: 0904

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	58733	22.54	52580	29.47	51719	33.14
UPPER LIMIT	117466	23.04	105160	29.97	103438	33.64
LOWER LIMIT	29366	22.04	26290	28.97	25860	32.64
EPA SAMPLE NO.						
01 MW3D-1_DL	47620	22.52	37620	29.46	38090	33.14
02 MW4S-1_DL	53137	22.50	47088	29.42	45311	33.06

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SAMPLE DATA PACKAGE

000085

SAMPLE DATA PACKAGE

CASE NARRATIVE

000086



Engineers
Planners
Economists
Scientists

CASE NARRATIVE FOR VOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	NA	04/15/92
21396002	MW3D-1	WATER	04/07/92	NA	04/15/92
21396002DL	MW3D-1 DL	WATER	04/07/92	NA	04/20/92
21396003	FB-1	WATER	04/07/92	NA	04/15/92
21396004	MW4S-1	WATER	04/07/92	NA	04/15/92
21396005	MW4D-1	WATER	04/07/92	NA	04/15/92
21396005DL	MW4D-1 DL	WATER	04/07/92	NA	04/20/92
21396006	M-1	WATER	04/07/92	NA	04/15/92
21396006DL	M-1 DL	WATER	04/07/92	NA	04/20/92
21396007	TB-1	WATER	04/07/92	NA	04/13/92
X04132B1	VBLKW	WATER	NA	NA	04/13/92
X04152B1	VBLKW_2	WATER	NA	NA	04/15/92
X04202B1	VBLKW_3	WATER	NA	NA	04/20/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.

B. Extraction

Exceptions : Not applicable.



Engineers
Planners
Economists
Scientists

VOLATILE
LAB NO. 21396
PAGE 2

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.

Due to the electronic saturation of the quantitation ion (mz 78), the quantitated amount of Benzene present in sample 21396002 (MW3D-1) was determined by using a secondary ion (mz 52) quantitation. A chromatogram demonstrating the saturation has been included with the sample as well as the calculation used to determine the amount of Benzene present in the sample.

The original analysis of samples 21396002 (MW3D-1), 21396005 (MW4D-1), and 21396006 (M-1) showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analysis have been reported.

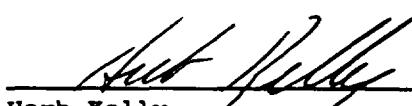
No other exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : All samples met acceptable QC limits.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

6/14/92
Date



**CASE NARRATIVE FOR SEMIVOLATILE
MASS SPECTROMETRY SAMPLES**

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	04/09/92	04/21/92
21396002	MW3D-1	WATER	04/07/92	04/09/92	04/21/92
21396002DL	MW3D-1 DL	WATER	04/07/92	04/09/92	04/22/92
21396003	FB-1	WATER	04/07/92	04/09/92	04/21/92
21396004	MW4S-1	WATER	04/07/92	04/09/92	04/21/92
21396004DL	MW4S-1 DL	WATER	04/07/92	04/09/92	04/22/92
21396005	MW4D-1	WATER	04/07/92	04/09/92	04/21/92
21396006	MW-1	WATER	04/07/92	04/09/92	04/21/92
C04092B1	SBLKW	WATER	NA	04/09/92	04/21/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

No other exceptions were encountered.

II. EXTRACTION

A. Holding Times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.



Engineers
Planners
Economists
Scientists

SEMICVOLATILE
LAB NO. 21396
PAGE 2

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : The original analysis of samples 21396002 (MW3D-1) and 21396004 (MW4S-1) showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

No other exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate Recoveries : Samples 21396002 (MW3D-1), 21396002DL (MW3D-1 DL), 21396005 (MW4D-1), and 21396006 (MW-1) required large dilutions for analysis. Therefore, surrogate recoveries could not be determined for these samples.

All other samples met acceptable QC limits.

C. Matrix Spike

Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

6/4/92
Date



**CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES**

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21396

SDG NO.: N/A

I. RECEIPT

A. DATE: April 8, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21396001	MW3S-1	WATER	04/07/92	04/09/92	05/05/92
21396002	MW3D-1	WATER	04/07/92	04/09/92	05/05/92
21396003	FB-1	WATER	04/07/92	04/09/92	05/05/92
21396004	MW4S-1	WATER	04/07/92	04/09/92	05/05/92
21396005	MW4D-1	WATER	04/07/92	04/09/92	05/05/92
21396005DL	MW4D-1DL	WATER	04/07/92	04/09/92	05/05/92
21396006	M-1	WATER	04/07/92	04/09/92	05/05/92
21396006DL	M-1DL	WATER	04/07/92	04/09/92	05/05/92
W04092B1	PBLK09	WATER	NA	04/09/92	05/05/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.
- PCB reporting limits were raised for samples 21396002 (MW3D-1), 21396005 (MW4D-1), and 21396006 (M-1) because of chemical interferences not removed by our cleanup procedures.

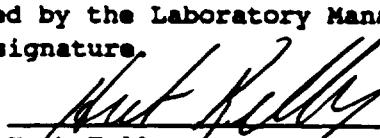
No additional exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : The percent recovery for Tetrachloro-m-xylene for sample 21396004 (MW4S-1) was outside advisory QC limits on both primary and confirmation analyses. Also, the percent recovery for Tetrachloro-m-xylene for the method blank was outside advisory QC limits on the confirmation analysis. Since these limits are advisory limits only, the laboratory took no further action. All other samples met advisory QC limits.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.
- D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division
2507 Fairlane Drive, P.O. Box 230548
Montgomery, Alabama 36116

6/4/92
Date

SAMPLE DATA PACKAGE
SHIPPING RECEIPTS

000093

CHAIN OF CUSTODY
BARR ENGINEERING CO
1803 GLENROY ROAD
MINNEAPOLIS, MN 55439

SAMPLED BY:

Eric Garrison 553

RELIQUISHED BY

DATE
4/76

TIME | RECEIVED BY LAB

DATE **TIME**

RECEIVED BY:

RELINQUISHED BY

DATE

TIME RECEIVED BY LAB

DATE TIME

RECEIVED BY

RELINQUISHED BY

DATE

TIME RECEIVED BY LAB

DATE | TIME

REMARKS

SAMPLES SHIPPED VIA
 AIR FREIGHT FED. EXP. SAMPLE
 OTHER (_____)

AIR BILL NUMBER

Laboratory No. 21405

- Volatiles
- Semivolatiles
- Pesticides
- Metals

Six investigative water samples (MW5S1, MW5D1, MW6S1, MW6S1 duplicate, MW6D1, and FB) were collected April 8, 1992. Six samples were analyzed for volatiles; and five samples were analyzed for semivolatiles, pesticide/PCBS and metals.

Holding Times

Holding times were met on all samples and analyses.

Instrument Tuning

Volatiles

GC/MS Tuning met the established method performance criteria for compounds, concentrations, frequencies and relative ion abundances for the volatiles analyses.

Semivolatiles

GC/MS Tuning met the established method performance criteria for compounds, concentrations, frequencies and relative ion abundances for the semivolatiles analyses.

Pesticides

Instrument performance was acceptable for retention times, retention time windows, and DDT and Endrin degradation for all samples.

Metals

Instrument tuning does not apply to the metals analyses.

Instrument Calibration

Volatiles

Initial calibration percent relative standard deviation (%RSD) and continuing calibration percent difference (%D) values for volatile parameters were within control limits.

Semivolatiles

Initial calibration percent relative standard deviation (%RSD) and continuing calibration percent difference (%D) values for several semivolatile parameters were outside the control limits. Control limits for %RSD and %D were ≤ 30 percent and ≤ 25 percent, respectively.

The semivolatiles analyses initial calibration parameter and %RSD value beyond control limits was 2,4-dinitrophenol (33.9 percent). Compounds with %D outlier values were 2,4-dinitrophenol (-36.3 percent, -60.7 percent and -45.9 percent), 4-nitrophenol (-31.7 percent and -41.1 percent), 4,6-Dinitro-2-methylphenol (-29.4 percent and -43.4 percent), butylbenzylphthalate (-28.9 percent and -40.4 percent), phenol (-32.1 percent), bis(2-chloroethyl) ether (-32.9 percent), 2,2'-oxybis(1-chloropropane) (-27.8 percent), n-nitroso-di-n-propylamine (-35.5 percent), 2-nitroaniline (-34.1), benzo(b)fluoranthene (-29.4 percent) and the surrogate standard 2,4,6-tribromophenol (-29.7 percent). Phenol was detected, qualified as estimated, and flagged "J" in samples MW6D1 and MW6S1DL.

Pesticides

Pesticide/PCB analyses instrument calibration %RSD and %D values were within the appropriate quality control limits. Resolution check mixture and

ERING CO.
GLENHUR ROAD
MINNEAPOLIS, MN 55439

PROJECT NUMBER
13149-100131TJSL1311

NO:

SAMPLE IDENTIFICATION	COLLECTION			GRAB	COMP	BLANK	VOLATILE ORGANIC SEMIVOLATILE ORGANIC	CONTAINER	TYPE AND NUMBER	TOTAL NO. OF CONTAINERS	PROJECT MANAGER
	DATE	TIME	GENERAL								
MW3D-1	4/7/92		X							2	JSL
MW3S-1			X							2	
MW4D-1			X							2	
MW4S-1			X							2	
FB-1			X							2	
M-1			X							2	
<p>* CN AM below 12 Adder made</p> <p>Flakes but only 001, 003, & 004 were brought above 12 AS below 12 4/8/92</p> <p>* Metals 002, 005, 006 all had neutral pH's added 12N H2SO4 and as brought them at 004 of below 2 4/8/92 page 2 of 3</p>											
SAMPLED BY: <u>Eric Garrison KSS</u>	RELINQUISHED BY: <u>Eric Garrison</u>	DATE 4/7/92	TIME	RECEIVED BY LAB: <u>Eric Garrison</u>	DATE 4/7/92	TIME 15:00					
RECEIVED BY: <u> </u>	RELINQUISHED BY: <u> </u>	DATE	TIME	RECEIVED BY LAB: <u> </u>	DATE	TIME					
RECEIVED BY: <u> </u>	RELINQUISHED BY: <u> </u>	DATE	TIME	RECEIVED BY LAB: <u> </u>	DATE	TIME					
REMARKS _____	SAMPLES SHIPPED VIA <input type="checkbox"/> AIR FREIGHT <input type="checkbox"/> FED. EXP. <input checked="" type="checkbox"/> SAMPLER <input type="checkbox"/> OTHER	AIR BILL NUMBER: _____									

DISTRIBUTION: WHITE-ORIGINAL ACCOMPANIES SHIPMENT TO LAB, RETURNS TO BARR WITH RESULTS; YELLOW LAB COPY; PINK LAB COORDINATOR; GOLD FIELD COPY

ENGINEERING CO.
3 GLENROY ROAD
MINNEAPOLIS, MN 55439

PROJECT NUMBER N° 01512
131491-0031T1111
NO:

SAMPLED BY:
Eric (atone)son KS

RECEIVED BY:

RECEIVED BY:

REMARKS

RELINQUISHED BY:

RELINQUISHED BY:

RELINQUISHED BY:

SAMPLES SHIPPED VIA
 AIR FREIGHT FED
 OTHER _____

DATA
4/17
7

DA

| DAT

1

RECEIVED BY LAB:

RECEIVED BY LABS

RECEIVED BY LAB:

AIR BILL NUMBER:

DATE	TIME
1/15	1:34 PM

DATE TIME

DATE TIME

INSTITUTIO

**TE-ORIGINAL ACCOMPANIES SHIPMENT TO LAB, RETURNS TO B.

'1TH RESULTS: YES - W-LAB COPY; PINK-LAB COORDINATE ONE GO

111 8-1814

performance evaluation mixture samples were analyzed at the proper frequency. All retention time and RPD values were within control limits.

Metals

Instrument calibrations were completed the proper number of times using the appropriate number and type of standards and blanks. Initial and continuing calibration percent recovery values were acceptable for all metals analyses.

Blanks

Volatiles

Methylene chloride ($4 \text{ J } \mu\text{g/L}$) was detected in the volatiles method blank. The field blank sample had concentrations of Methylene chloride ($9 \text{ J } \mu\text{g/L}$) and acetone ($7 \text{ J } \mu\text{g/L}$). Sample results less than ten times the associated blank concentration of either compound were qualified as nondetects and flagged "U."

Semivolatiles

The semivolatiles method blank had concentrations of di-n-butylphthalate ($4 \text{ J } \mu\text{g/L}$). Associated sample results less than ten times the blank concentration of this compound were qualified as nondetects and flagged "U."

Pesticides

No compounds were detected in this method blank.

Metals

Total metals analyses calibration and preparation blanks had concentrations of aluminum, antimony, arsenic, beryllium, calcium, copper, iron, magnesium, manganese, mercury, nickel, sodium, and zinc. These concentrations were greater than the instrument detection limit (IDL) but less than the contract required detection limit (CRDL). Sample results for these compounds less than five times the blank concentration were qualified as nondetects and flagged "U."

Surrogate Recovery

Volatiles

Recoveries for the volatiles system monitoring compounds were within the established quality control limits.

Semivolatiles

Semivolatiles surrogate recoveries were not determined for samples MW5D1, MW6D1, MW6D1DL, MW6S1 duplicate and MW6S1DL due to the large dilutions required for analysis. No data were qualified. Recoveries for 2-fluorobiphenyl were beyond control limits (43-116 percent) in Samples MW5S1 (42 percent), MW5S1MSD (42 percent) and MW5S1MS (33 percent). Since only one surrogate per sample was out, no action was taken.

Pesticides

Difficulties were encountered on the pesticide/PCB surrogate compounds percent recoveries for tetrachloro-m-xylene and decachlorobiphenyl for all samples. All results for these samples were qualified as estimated and flagged "J."

Metals

Total metals analyses ICP Interference Check Sample recoveries and Laboratory Control Sample results were within the established quality control limits.

Matrix Spike/Matrix Spike Duplicate

Volatiles

Volatiles analyses matrix spike/matrix spike duplicate samples percent recovery and RPD values were within the appropriate control limits for all spike compounds.

Semivolatiles

Semivolatiles analyses matrix spike/matrix spike duplicate samples had recoveries beyond control limits for phenol (10 percent), 1,2,4-trichlorobenzene (34 percent) and acenaphthene (35 percent). RPD outliers were phenol (163 percent) and acenaphthene (33 percent). Since the matrix spike duplicate sample recoveries for all spike compounds met the established performance criteria, no data were qualified.

Pesticides

Pesticide/PCB matrix spike/matrix spike duplicate samples had RPD values beyond control limits for gamma-BHC (-22 percent) and heptachlor (-23 percent). No action was taken due to previously qualified parameters.

Metals

Metals analyses quality control samples included a duplicate sample, a spike sample, post digestion spike samples, and an ICP serial dilution sample.

Duplicate samples RPD values for Antimony (200 percent), beryllium (24.0 percent), cadmium (200.0 percent), chromium (200.0 percent) and selenium (200.0 percent) were beyond the control limits. Investigative sample results for these compounds were qualified as estimated and flagged "J."

Recoveries for the spike sample were within control limits for all spike compounds.

Post digestion spike recoveries were beyond control limits for: lead in Samples MW5D1 (75.3 percent) and MW6D1 (74.6 percent); selenium in Samples MW5D1 (54.0 percent), MW5S1 (82.7 percent), MW6D1 (57.6 percent), MW6S1 (70.5 percent) and MW6S1 duplicate (77.8 percent); and thallium in Samples MW5D1 (59.4 percent) and MW6D1 (44.2 percent). These compounds were qualified as estimated and flagged "J" in the affected samples.

ICP serial dilution results for barium (11.1 percent), iron (14.7 percent) and sodium (23.7 percent) were outside the 10 percent difference control limit. These compounds were qualified as estimated and flagged "J" in the affected samples.

Field Duplicates

Field duplicates are summarized in Tables 2.3-6 through 2.3-11.

Overall Assessment

The data are considered acceptable with the recommended qualifiers.



RECEIVED

June 4, 1992

LMG33486.XY

JUN 05 92

BARR
ENGINEERING

Ms. Marti Harding-Smith
Barr Engineering Company
8300 Norman Center Drive
Suite 300
Minneapolis, Minnesota 55437-1026

RE: Analytical Data for 13/49-003JSL31, LMG Laboratory No. 21405

Dear Ms. Harding-Smith:

On April 9, 1992, the CH2M HILL Montgomery Laboratory received six samples with a request for analysis of selected organic parameters.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narratives.

Under CH2M HILL policy, your samples will be stored for up to 30 days after reporting. If you have not given us prior instructions for disposal, we will contact you if any samples require disposal as hazardous waste.

CH2M HILL Laboratories appreciate your business and look forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call.

Sincerely,

Wanda L. Hall

Wanda L. Hall
Data Package Supervisor

Enclosures

cc: Mr. Jim Langseth



TABLE OF CONTENTS

CH2M HILL Laboratory No. 21405



Engineers
Planners
Economists
Scientists

TABLE OF CONTENTS (cont.)

CH2M HILL Laboratory No. 21405



EPA - DEFINED QUALIFIERS

ORGANICS

Definitions for the EPA-defined qualifiers:

- U -- Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the quantitation limit for that compound. The detection limit can vary from sample to sample depending on dilution factors or percent moisture adjustment when indicated.
- J -- Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound below the stated quantitation limit. The "J" qualifier is not used with pesticide results.
- C -- This flag applies to pesticide results only. The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.
- B -- This flag is used when the analyte is found in the associated blank as well as the sample. This notation indicates possible blank contamination and suggests the data user evaluate these compounds and their amounts carefully.
- E -- This flag applies to GC/MS only. The "E" qualifier indicates a compound may be above or below the linear range of the instrument. If the particular compound level is deemed above the linear calibration range, then the sample should be reanalyzed at an appropriate dilution. Therefore, the "E" qualified amount is an estimated concentration. The results for the dilution will be reported on a separate Form I and will be flagged with a "D" if the dilution brings the concentration within proper calibration.
- D -- This flag identifies compounds which have been run at a dilution to bring the concentration of that compound within the linear range of the instrument. "D" qualifiers are only used for samples that have been run initially with results above acceptable ranges. For secondary dilutions the "DL" suffix is appended to the sample number on the Form I.
- A -- Indicates the Tentatively Identified Compound (TIC) is a suspected aldol-condensation product.
- X -- Indicates the compound concentration has been manually modified or the EPA qualifier has been manually modified or added.
- JX -- The compound was detected and quantitated below the Contract Required Quantitation Limit.



CLIENT SAMPLE ID QUALIFIERS

LEVEL 3

The qualifiers that GC/MS and GC use with the client sample ID are defined below:

- DL -- Dilution Run
- R -- Rerun (may be followed by a digit to indicate multiple reruns)
- RD -- Diluted Rerun
- RX -- Re-extraction Analysis
- MS -- Matrix Spike (may be followed by a digit to indicate multiple matrix spikes within a sample set)
- MSD -- Matrix Spike Duplicate (may be followed by a digit to indicate multiple matrix spike duplicates within a sample set)
- VBLK -- Volatile Blank (will be followed by a "W" for waters, "S" for soils run at a low level, or "SM" for soils run at a medium level -- these letters may be followed by a digit to indicate multiple blanks of that type).
- SBLK -- Semivolatile Blank (will be followed by a "W" for waters, "S" for soils run at a low level, or "SM" for soils run at a medium level -- these letters may be followed by a digit to indicate multiple blanks of that type).
- PBLK -- Pesticide/PCB Blank (may be followed by digits to indicate multiple blanks)

These qualifiers allow GC/MS and GC to have unique client sample ID's so that the client can get more accurate information from the data reported.



CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Laboratory No. 21405

LMG Sample No.	Client ID
21405001	MW5S-1
21405002	MW6S-1
21405003	MW6D-1
21405004	MW5D-1
21405005	M-2
21405006	FB-2



INTERNAL STANDARD AND SURROGATE COMPOUNDS

VOLATILE ANALYSIS

The internal standards on the GC/MS volatile chromatograms are designated as IS1, IS2, and IS3. The surrogate standards are labelled as SS1, SS2, and SS3. The compounds corresponding to these labels are listed below.

<u>LABEL</u>	<u>INTERNAL STANDARD COMPOUND</u>
IS1	BROMOCHLOROMETHANE
IS2	1,4-DIFLUOROBENZENE
IS3	D5-CHLOROBENZENE

<u>LABEL</u>	<u>SURROGATE STANDARD COMPOUND</u>
SS1	D4-1,2-DICHLOROETHANE
SS2	D8-TOLUENE
SS3	1,4-BROMOFLUOROBENZENE



INTERNAL STANDARD AND SURROGATE COMPOUNDS

SEMICOLVATILE ANALYSIS

The internal standards on the GC/MS semivolatile chromatograms are designated as IS1, IS2, IS3, IS4, IS5, and IS6. The surrogate standards are labelled as SS1, SS2, SS3, SS4, SS5, and SS6. The compounds corresponding to these labels are listed below.

<u>LABEL</u>	<u>INTERNAL STANDARD COMPOUND</u>
IS1	D4-1,4-DICHLOROBENZENE
IS2	D8-NAPHTHALENE
IS3	D10-ACENAPHTHENE
IS4	D10-PHENANTHRENE
IS5	D12-CHRYSENE
IS6	D12-PERYLENE

<u>LABEL</u>	<u>SURROGATE STANDARD COMPOUND</u>
SS1	2-FLUOROPHENOL
SS2	D5-PHENOL
SS3	D5-NITROBENZENE
SS4	2-FLUOROBIPHENYL
SS5	2,4,6-TRIBROMOPHENOL
SS6	D14-TERPHENYL

SAMPLE DATA SUMMARY PACKAGE

000001



Engineers
Planners
Economists
Scientists

CASE NARRATIVE FOR VOLATILE
MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDG NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

<u>LAB ID</u>	<u>CLIENT ID</u>	<u>SAMPLE MATRIX</u>	<u>DATE SAMPLED</u>	<u>EXTRACTION DATE</u>	<u>ANALYSIS DATE</u>
21405001	MW5S-1	WATER	04/08/92	NA	04/15/92
21405002	MW6S-1	WATER	04/08/92	NA	04/15/92
21405003	MW6D-1	WATER	04/08/92	NA	04/15/92
21405004	MW5D-1	WATER	04/08/92	NA	04/15/92
21405005	M-2	WATER	04/08/92	NA	04/15/92
21405006	FB-2	WATER	04/08/92	NA	04/15/92
21405M01	MW5S-1MS	WATER	04/08/92	NA	04/15/92
21405D01	MW5S-1MSD	WATER	04/08/92	NA	04/15/92
X04152B1	VBLKW	WATER	NA	NA	04/15/92

C. Documentation

Exceptions : No exceptions were encountered.



VOLATILE
LAB NO. 21405
PAGE 2

II. EXTRACTION

- A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.
- B. Extraction
Exceptions : Not applicable.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical
Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.
No exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate
Recoveries : All samples met acceptable QC limits.
- C. Matrix Spike
Results : All spike recoveries were within CLP advisory limits.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division


Date



Engineers
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Scientists

CASE NARRATIVE FOR SEMIVOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDG NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21405001	MW5S-1	WATER	04/08/92	04/09/92	04/22/92
21405002	MW6S-1	WATER	04/08/92	04/09/92	04/22/92
21405002DL	MW6S-1 DL	WATER	04/08/92	04/09/92	04/28/92
21405003	MW6D-1	WATER	04/08/92	04/09/92	04/28/92
21405003DL	MW6D-1 DL	WATER	04/08/92	04/09/92	04/28/92
21405004	MW5D-1	WATER	04/08/92	04/09/92	04/28/92
21405005	M-2	WATER	04/08/92	04/09/92	04/28/92
21405M01	MW5S-1MS	WATER	04/08/92	04/09/92	04/22/92
21405D01	MW5S-1MSD	WATER	04/08/92	04/09/92	04/22/92
CO4092B1	SBLKW	WATER	NA	04/09/92	04/21/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

No other exceptions were encountered.

II. EXTRACTION

A. Holding Times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.



SEMOVOLATILE
LAB NO. 21405
PAGE 2

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : Samples 21405002 (MW6S-1), 21405003 (MW6D-1), 21405004 (MW5D-1), and 21405005 (M-2) required dilutions for analysis due to the high level of target compounds present in the samples.

The original analysis of samples 21405002 and 21405003 showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

No other exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate Recoveries : Surrogate recoveries could not be determined for samples 21405002DL (MW6S-1 DL), 21405003 (MW6D-1), 21405003DL (MW6D-1 DL), 21405004 (MW5D-1), and 21405005 (M-2) due to the dilutions required for analysis. All other samples met acceptable QC limits.

C. Matrix Spike Results : Please note that the percent recoveries for Phenol, 1,2,4-Trichlorobenzene, and Acenaphthene in sample 21405M01 were outside QC limits. Also note that the relative percent differences for Phenol and Acenaphthene were outside QC limits. Since these limits are advisory only, the laboratory took no further action. All other spike recoveries were within CLP advisory limits.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Herb Kelly
Manager, Organic Division

Date



Engineers
Planners
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CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDC NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21405001	MW5S-1	WATER	04/08/92	04/09/92	05/05/92
21405002	MW6S-1	WATER	04/08/92	04/09/92	05/05/92
21405003	MW6D-1	WATER	04/08/92	04/09/92	05/05/92
21405004	MW5D-1	WATER	04/08/92	04/09/92	05/06/92
21405005	M-2	WATER	04/08/92	04/09/92	05/06/92
21405M01	MW5S-1MS	WATER	04/08/92	04/09/92	05/06/92
21405D01	MW5S-1MSD	WATER	04/08/92	04/09/92	05/06/92
W04092B1	PBLK09	WATER	NA	04/09/92	05/05/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.
- Some extracts offered chemical interferences even after appropriate cleanup procedures were applied. For sample 21405003 (MW6D-1), report limits were raised beyond values predicted from the dilution factor alone. For samples 21405002 (MW6S-1), 21405004 (MW5D-1) and 21405005 (M-2), the PCB report limits were raised because of chemical interferences.

No additional exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : All samples did not met advisory QC limits.
- C. Matrix Spike Results : The relative percent differences for gamma-BHC and Heptachlor were outside advisory QC limits. Since these limits are advisory only, the laboratory took no further action. All other spike recoveries met advisory QC limits.
- D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

Date

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>CH2M HILL/MGM</u>	Contract: _____	MW5S-1	
Lab Code: _____	Case No.: <u>21405</u>	SAS No.: _____	SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>21405001</u>		
Sample wt/vol: <u>5.0 (g/mL) ML</u>	Lab File ID: <u>C1VO021479</u>		
Level: (low/med) <u>LOW</u>	Date Received: <u>04/09/92</u>		
Moisture: not dec.	Date Analyzed: <u>04/15/92</u>		
GC Column: <u>CAP</u> ID: <u>0.530 (mm)</u>	Dilution Factor: <u>5.0</u>		
Soil Extract Volume: _____ (uL)	Soil Aliquot Volume: _____ (uL)		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	50	U
74-83-9-----	Bromomethane	50	U
75-01-4-----	Vinyl Chloride	50	U
75-00-3-----	Chloroethane	50	U
75-09-2-----	Methylene Chloride	16	BJ
67-64-1-----	Acetone	10	J
75-15-0-----	Carbon Disulfide	50	U
75-35-4-----	1,1-Dichloroethene	12	J
75-34-3-----	1,1-Dichloroethane	700	
540-59-0-----	1,2-Dichloroethene (total)	50	U
67-66-3-----	Chloroform	50	U
107-06-2-----	1,2-Dichloroethane	20	J
78-93-3-----	2-Butanone	50	U
71-55-6-----	1,1,1-Trichloroethane	68	
56-23-5-----	Carbon Tetrachloride	50	U
75-27-4-----	Bromodichloromethane	50	U
78-87-5-----	1,2-Dichloropropane	50	U
10061-01-5-----	cis-1,3-Dichloropropene	50	U
79-01-6-----	Trichloroethene	50	U
124-48-1-----	Dibromochloromethane	50	U
79-00-5-----	1,1,2-Trichloroethane	50	U
71-43-2-----	Benzene	70	
10061-02-6-----	trans-1,3-Dichloropropene	50	U
75-25-2-----	Bromoform	50	U
591-78-6-----	2-Hexanone	50	U
108-10-1-----	4-Methyl-2-Pentanone	50	U
127-18-4-----	Tetrachloroethene	50	U
79-34-5-----	1,1,2,2-Tetrachloroethane	50	U
108-88-3-----	Toluene	50	U
108-90-7-----	Chlorobenzene	50	U
100-41-4-----	Ethylbenzene	50	U
100-42-5-----	Styrene	50	U
1330-20-7-----	Xylene (total)	50	U

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW5S-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405001

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1VO021479

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405002Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021488Level: (low/med) LOWDate Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	<u>UG/L</u>

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	11	
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	44	
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	23	
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	69	
100-42-5-----	Styrene	7	J
1330-20-7-----	Xylene (total)	100	

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW6S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405002

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1VO021488

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	20.99	39	J
2.	BENZENE, TRIMETHYL- ISOMER	21.77	69	J
3.	BENZENE, TRIMETHYL- ISOMER	22.64	46	J
4.	BENZENE, ETHENYL-2-METHYL- I	23.22	400	J
5.	BENZENE, ETHYNYL-4-METHYL- I	23.59	250	J
.	1H-INDENE, 2,3-DIHYDRO, METH	24.19	37	J
7.	NOT IDENTIFIED	24.64	64	J
8. 104-55-2	2-PROPENAL, 3-PHENYL-	24.74	110	J
9.	1H-INDENE, 2,3-DIHYDRO, METH	25.66	73	J
10. 95-15-8	BENZO[B]THIOPHENE	27.27	6	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405003Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021490Level: (low/med) LOW Date Received: 04/09/92Moisture: not dec. Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q
74-87-3-----	Chloromethane	100
74-83-9-----	Bromomethane	100
75-01-4-----	Vinyl Chloride	100
75-00-3-----	Chloroethane	100
75-09-2-----	Methylene Chloride	70
67-64-1-----	Acetone	760
75-15-0-----	Carbon Disulfide	100
75-35-4-----	1,1-Dichloroethene	100
75-34-3-----	1,1-Dichloroethane	100
540-59-0-----	1,2-Dichloroethene (total)	100
67-66-3-----	Chloroform	100
107-06-2-----	1,2-Dichloroethane	100
78-93-3-----	2-Butanone	130
71-55-6-----	1,1,1-Trichloroethane	100
56-23-5-----	Carbon Tetrachloride	100
75-27-4-----	Bromodichloromethane	100
78-87-5-----	1,2-Dichloropropane	100
10061-01-5-----	cis-1,3-Dichloropropene	100
79-01-6-----	Trichloroethene	100
124-48-1-----	Dibromochloromethane	100
79-00-5-----	1,1,2-Trichloroethane	100
71-43-2-----	Benzene	1500
10061-02-6-----	trans-1,3-Dichloropropene	100
75-25-2-----	Bromoform	100
591-78-6-----	2-Hexanone	100
108-10-1-----	4-Methyl-2-Pentanone	100
127-18-4-----	Tetrachloroethene	100
79-34-5-----	1,1,2,2-Tetrachloroethane	100
108-88-3-----	Toluene	400
108-90-7-----	Chlorobenzene	100
100-41-4-----	Ethylbenzene	120
100-42-5-----	Styrene	100
1330-20-7-----	Xylene (total)	180

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405003

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021490

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NOT IDENTIFIED	8.65	130	J
2. 271-89-6	BENZOFURAN	22.49	140	J
3. 496-11-7	1H-INDENE, 2,3-DIHYDRO-	23.22	420	J
4. 95-13-6	1H-INDENE	23.59	430	J
5. 104-55-2	2-PROPENAL, 3-PHENYL-	24.74	87	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW5D-1

Lab Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405004Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021491Level: (low/med) LOWDate Received: 04/09/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	40	U
74-83-9-----	Bromomethane	40	U
75-01-4-----	Vinyl Chloride	40	U
75-00-3-----	Chloroethane	40	U
75-09-2-----	Methylene Chloride	29	BJ
67-64-1-----	Acetone	23	J
75-15-0-----	Carbon Disulfide	40	U
75-35-4-----	1,1-Dichloroethene	40	U
75-34-3-----	1,1-Dichloroethane	14	J
540-59-0-----	1,2-Dichloroethene (total)	40	U
67-66-3-----	Chloroform	40	U
107-06-2-----	1,2-Dichloroethane	40	U
78-93-3-----	2-Butanone	40	U
71-55-6-----	1,1,1-Trichloroethane	40	U
56-23-5-----	Carbon Tetrachloride	40	U
75-27-4-----	Bromodichloromethane	40	U
78-87-5-----	1,2-Dichloropropane	40	U
10061-01-5-----	cis-1,3-Dichloropropene	40	U
79-01-6-----	Trichloroethene	40	U
124-48-1-----	Dibromochloromethane	40	U
79-00-5-----	1,1,2-Trichloroethane	40	U
71-43-2-----	Benzene	560	
10061-02-6-----	trans-1,3-Dichloropropene	40	U
75-25-2-----	Bromoform	40	U
591-78-6-----	2-Hexanone	40	U
108-10-1-----	4-Methyl-2-Pentanone	40	U
127-18-4-----	Tetrachloroethene	40	U
79-34-5-----	1,1,2,2-Tetrachloroethane	40	U
108-88-3-----	Toluene	40	U
108-90-7-----	Chlorobenzene	40	U
100-41-4-----	Ethylbenzene	40	U
100-42-5-----	Styrene	40	U
1330-20-7-----	Xylene (total)	40	U

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

MW5D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405004

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1VO021491

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 5

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2471-84-3	1H-INDENE, 1-METHYLENE-	14.65	150	J
2. 95-15-8	BENZO[B]THIOPHENE	17.50	22	J
3. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	19.59	230	BJ
4. 541-02-6	CYCLOPENTASILOXANE, DECAMETH	22.69	59	J
5. 90-12-0	NAPHTHALENE, 1-METHYL-	24.80	20	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

M-2

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405005Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021489Level: (low/med) LOWDate Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	7	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	50	
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	25	
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	78	
100-42-5-----	Styrene	8	J
1330-20-7-----	Xylene (total)	120	

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

FB-2

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21405006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C1VO021480

Level: (low/med) LOW Date Received: 04/09/92

Moisture: not dec. _____ Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

Number TICs found: 0

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW5S-1

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405001Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010624Level: (low/med) LOWDate Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	47
111-44-4-----	bis(2-Chloroethyl)Ether	10
95-57-8-----	2-Chlorophenol	10
541-73-1-----	1,3-Dichlorobenzene	10
106-46-7-----	1,4-Dichlorobenzene	10
95-50-1-----	1,2-Dichlorobenzene	10
95-48-7-----	2-Methylphenol	6
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10
106-44-5-----	4-Methylphenol	20
621-64-7-----	N-Nitroso-Di-n-Propylamine	10
67-72-1-----	Hexachloroethane	10
98-95-3-----	Nitrobenzene	10
78-59-1-----	Isophorone	10
88-75-5-----	2-Nitrophenol	10
105-67-9-----	2,4-Dimethylphenol	2
111-91-1-----	bis(2-Chloroethoxy)Methane	10
120-83-2-----	2,4-Dichlorophenol	10
120-82-1-----	1,2,4-Trichlorobenzene	10
91-20-3-----	Naphthalene	10
106-47-8-----	4-Chloroaniline	10
87-68-3-----	Hexachlorobutadiene	10
59-50-7-----	4-Chloro-3-Methylphenol	10
91-57-6-----	2-Methylnaphthalene	10
77-47-4-----	Hexachlorocyclopentadiene	10
88-06-2-----	2,4,6-Trichlorophenol	10
95-95-4-----	2,4,5-Trichlorophenol	25
91-58-7-----	2-Chloronaphthalene	10
88-74-4-----	2-Nitroaniline	25
131-11-3-----	Dimethylphthalate	10
208-96-8-----	Acenaphthylene	10
606-20-2-----	2,6-Dinitrotoluene	10
99-09-2-----	3-Nitroaniline	25
83-32-9-----	Acenaphthene	10

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

M-2

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405005

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021489

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 9

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 622-96-8	BENZENE, 1-ETHYL-4-METHYL-	21.00	46	J
2.	BENZENE, TRIMETHYL- ISOMER	21.79	79	J
3.	BENZENE, TRIMETHYL- ISOMER	22.65	53	J
4.	BENZENE, 1-ETHENYL, METHYL-	23.24	440	J
5.	BENZENE, 1-ETHYNYL, METHYL-	23.59	280	J
6.	1H-INDENE, 2,3-DIHYDRO, METH	24.19	44	J
7.	NOT IDENTIFIED	24.64	64	J
8. 104-55-2	2-PROPENAL, 3-PHENYL-	24.72	140	J
9.	1H-INDENE, 2,3-DIHYDRO, METH	25.66	83	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FB-2

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405006Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021480Level: (low/med) LOWDate Received: 04/09/92

Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	<u>UG/L</u>

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	9	BJ
67-64-1-----	Acetone	7	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW5S-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405001Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010624Level: (low/med) LOW Date Received: 04/09/92t Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92Injection Volume: 2.0(uL) Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	25 U
100-02-7-----	4-Nitrophenol	25 U
132-64-9-----	Dibenzofuran	10 U
121-14-2-----	2,4-Dinitrotoluene	10 U
84-66-2-----	Diethylphthalate	10 U
7005-72-3-----	4-Chlorophenyl-phenylether	10 U
86-73-7-----	Fluorene	10 U
100-10-6-----	4-Nitroaniline	25 U
534-52-1-----	4,6-Dinitro-2-methylphenol	25 U
86-30-6-----	N-Nitrosodiphenylamine (1)	10 U
101-55-3-----	4-Bromophenyl-phenylether	10 U
118-74-1-----	Hexachlorobenzene	10 U
87-86-5-----	Pentachlorophenol	25 U
85-01-8-----	Phenanthrene	10 U
120-12-7-----	Anthracene	10 U
86-74-8-----	Carbazole	10 U
84-74-2-----	Di-n-Butylphthalate	7 BJ
206-44-0-----	Fluoranthene	10 U
129-00-0-----	Pyrene	10 U
85-68-7-----	Butylbenzylphthalate	10 U
91-94-1-----	3,3'-Dichlorobenzidine	10 U
56-55-3-----	Benzo(a)Anthracene	10 U
218-01-9-----	Chrysene	10 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	9 J
117-84-0-----	Di-n-Octyl Phthalate	10 U
205-99-2-----	Benzo(b)Fluoranthene	10 U
207-08-9-----	Benzo(k)Fluoranthene	10 U
50-32-8-----	Benzo(a)Pyrene	10 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3-----	Dibenz(a,h)Anthracene	10 U
191-24-2-----	Benzo(g,h,i)Perylene	10 U

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW5S-1

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21405001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010624

Level: (low/med) LOW Date Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

SPC Cleanup: (Y/N) N pH: _____

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-94-1	CYCLOHEXANONE (ACN)	9.05	8	BJ
2.	NOT IDENTIFIED	11.15	9	J
3. 526-75-0	PHENOL, 2,3-DIMETHYL-	13.00	15	J

1B
SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

LFA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405002

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010625

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/22/92

Injection Volume: 2.0(uL)

Dilution Factor: 15.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	340
111-44-4-----	bis(2-Chloroethyl)Ether	150 U
95-57-8-----	2-Chlorophenol	150 U
541-73-1-----	1,3-Dichlorobenzene	150 U
106-46-7-----	1,4-Dichlorobenzene	150 U
95-50-1-----	1,2-Dichlorobenzene	150 U
95-48-7-----	2-Methylphenol	67 J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	150 U
106-44-5-----	4-Methylphenol	110 J
621-64-7-----	N-Nitroso-Di-n-Propylamine	150 U
67-72-1-----	Hexachloroethane	150 U
98-95-3-----	Nitrobenzene	150 U
78-59-1-----	Isophorone	150 U
88-75-5-----	2-Nitrophenol	150 U
105-67-9-----	2,4-Dimethylphenol	46 J
111-91-1-----	bis(2-Chloroethoxy)Methane	150 U
120-83-2-----	2,4-Dichlorophenol	150 U
120-82-1-----	1,2,4-Trichlorobenzene	150 U
91-20-3-----	Naphthalene	1400 E
106-47-8-----	4-Chloroaniline	150 U
87-68-3-----	Hexachlorobutadiene	150 U
59-50-7-----	4-Chloro-3-Methylphenol	150 U
91-57-6-----	2-Methylnaphthalene	20 J
77-47-4-----	Hexachlorocyclopentadiene	150 U
88-06-2-----	2,4,6-Trichlorophenol	150 U
95-95-4-----	2,4,5-Trichlorophenol	380 U
91-58-7-----	2-Chloronaphthalene	150 U
88-74-4-----	2-Nitroaniline	380 U
131-11-3-----	Dimethylphthalate	150 U
208-96-8-----	Acenaphthylene	150 U
606-20-2-----	2,6-Dinitrotoluene	150 U
99-09-2-----	3-Nitroaniline	380 U
83-32-9-----	Acenaphthene	150

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405002Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010625Level: (low/med) LOWDate Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 15.0GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	380
100-02-7-----	4-Nitrophenol	380
132-64-9-----	Dibenzofuran	48
121-14-2-----	2,4-Dinitrotoluene	150
84-66-2-----	Diethylphthalate	150
7005-72-3-----	4-Chlorophenyl-phenylether	150
86-73-7-----	Fluorene	19
100-10-6-----	4-Nitroaniline	380
534-52-1-----	4,6-Dinitro-2-methylphenol	380
86-30-6-----	N-Nitrosodiphenylamine (1)	150
101-55-3-----	4-Bromophenyl-phenylether	150
118-74-1-----	Hexachlorobenzene	150
87-86-5-----	Pentachlorophenol	380
85-01-8-----	Phenanthrene	150
120-12-7-----	Anthracene	150
86-74-8-----	Carbazole	110
84-74-2-----	Di-n-Butylphthalate	150
206-44-0-----	Fluoranthene	150
129-00-0-----	Pyrene	150
85-68-7-----	Butylbenzylphthalate	150
91-94-1-----	3,3'-Dichlorobenzidine	150
56-55-3-----	Benzo(a)Anthracene	150
218-01-9-----	Chrysene	150
117-81-7-----	bis(2-Ethylhexyl)Phthalate	150
117-84-0-----	Di-n-Octyl Phthalate	150
205-99-2-----	Benzo(b)Fluoranthene	150
207-08-9-----	Benzo(k)Fluoranthene	150
50-32-8-----	Benzo(a)Pyrene	150
193-39-5-----	Indeno(1,2,3-cd)Pyrene	150
53-70-3-----	Dibenz(a,h)Anthracene	150
191-24-2-----	Benzo(g,h,i)Perylene	150

**SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405002

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010625

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/22/92

Injection Volume: 2.0(uL)

Dilution Factor: 15.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BENZENE, 1-ETHENYL-METHYL-	11.80	380	J
2.	BENZENE, 1-ETHYNYL-METHYL-	11.97	230	J
3. 17059-52-8	BENZOFURAN, 7-METHYL-	12.99	92	J
4. 767-58-8	1H-INDENE, 2,3-DIHYDRO-1-MET	13.79	52	J
5. 95-15-8	BENZO[B]THIOPHENE	14.55	250	J
6. 90-12-0	NAPHTHALENE, 1-METHYL-	16.39	220	J

SEMICOLVATILE ORGANICS ANALYSIS DATA SHEET

Digitized by srujanika@gmail.com

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1 DL

Lab Code: _____ Case No.: 21405

SAS No.: _____

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: 21405002DL

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D2BA010680

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Injection Volume: 2.0 (uL)

Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ԿՊ/Լ օք ԿՊ/ԲՊ) ԱԳ/Լ

9

108-95-2-----Phenol	490	D
111-44-4-----bis(2-Chloroethyl)Ether	250	U
95-57-8-----2-Chlorophenol	250	U
541-73-1-----1,3-Dichlorobenzene	250	U
106-46-7-----1,4-Dichlorobenzene	250	U
95-50-1-----1,2-Dichlorobenzene	250	U
95-48-7-----2-Methylphenol	99	DJ
108-60-1-----2,2'-oxybis(1-Chloropropane)	250	U
106-44-5-----4-Methylphenol	150	DJ
621-64-7-----N-Nitroso-Di-n-Propylamine	250	U
67-72-1-----Hexachloroethane	250	U
98-95-3-----Nitrobenzene	250	U
78-59-1-----Isophorone	250	U
88-75-5-----2-Nitrophenol	250	U
105-67-9-----2,4-Dimethylphenol	60	DJ
111-91-1-----bis(2-Chloroethoxy)Methane	250	U
120-83-2-----2,4-Dichlorophenol	250	U
120-82-1-----1,2,4-Trichlorobenzene	250	U
91-20-3-----Naphthalene	1800	D
106-47-8-----4-Chloroaniline	250	U
87-68-3-----Hexachlorobutadiene	250	U
59-50-7-----4-Chloro-3-Methylphenol	250	U
91-57-6-----2-Methylnaphthalene	26	DJ
77-47-4-----Hexachlorocyclopentadiene	250	U
88-06-2-----2,4,6-Trichlorophenol	250	U
95-95-4-----2,4,5-Trichlorophenol	620	U
91-58-7-----2-Chloronaphthalene	250	U
88-74-4-----2-Nitroaniline	620	U
131-11-3-----Dimethylphthalate	250	U
208-96-8-----Acenaphthylene	250	U
606-20-2-----2,6-Dinitrotoluene	250	U
99-09-2-----3-Nitroaniline	620	U
83-32-9-----Acenaphthene	200	DJ

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW6S-1_DL

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405002DL

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D2BA010680

Level: (low/med) LOW

Date Received: 04/09/92

t Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND			
51-28-5-----	2,4-Dinitrophenol	620	U	
100-02-7-----	4-Nitrophenol	620	U	
132-64-9-----	Dibenzofuran	64	DJ	
121-14-2-----	2,4-Dinitrotoluene	250	U	
84-66-2-----	Diethylphthalate	250	U	
7005-72-3-----	4-Chlorophenyl-phenylether	250	U	
86-73-7-----	Fluorene	27	DJ	
100-10-6-----	4-Nitroaniline	620	U	
534-52-1-----	4,6-Dinitro-2-methylphenol	620	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	250	U	
101-55-3-----	4-Bromophenyl-phenylether	250	U	
118-74-1-----	Hexachlorobenzene	250	U	
87-86-5-----	Pentachlorophenol	620	U	
85-01-8-----	Phenanthrene	250	U	
120-12-7-----	Anthracene	250	U	
86-74-8-----	Carbazole	120	DJ	
84-74-2-----	Di-n-Butylphthalate	250	U	
206-44-0-----	Fluoranthene	250	U	
129-00-0-----	Pyrene	250	U	
85-68-7-----	Butylbenzylphthalate	250	U	
91-94-1-----	3,3'-Dichlorobenzidine	250	U	
56-55-3-----	Benzo(a)Anthracene	250	U	
218-01-9-----	Chrysene	250	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	250	U	
117-84-0-----	Di-n-Octyl Phthalate	250	U	
205-99-2-----	Benzo(b)Fluoranthene	250	U	
207-08-9-----	Benzo(k)Fluoranthene	250	U	
50-32-8-----	Benzo(a)Pyrene	250	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	250	U	
53-70-3-----	Dibenz(a,h)Anthracene	250	U	
191-24-2-----	Benzo(g,h,i)Perylene	250	U	

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: <u>CH2M HILL/MGM</u>	Contract: _____	MW6S-1_DL
Lab Code: _____	Case No.: <u>21405</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>		Lab Sample ID: <u>21405002DL</u>
Sample wt/vol:	<u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>D2BA010680</u>
Level:	(low/med) <u>LOW</u>	Date Received: <u>04/09/92</u>
% Moisture:	decanted: (Y/N) _____	Date Extracted: <u>04/09/92</u>
Concentrated Extract Volume: <u>1000</u> (uL)		Date Analyzed: <u>04/28/92</u>
Injection Volume: <u>2.0</u> (uL)		Dilution Factor: <u>25.0</u>
SPC Cleanup: (Y/N) <u>N</u>	pH: _____	

Number TICs found: 7 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BENZENE, 1-ETHENYL-METHYL- I	10.55	480	J
2.	BENZENE, 1-ETHYNYL-METHYL- I	10.72	300	J
3. 17059-52-8	BENZOFURAN, 7-METHYL-	11.74	120	J
4. 767-99-7	BENZENE, (1-METHYL-1-PROPYNY	12.52	98	J
5. 95-15-8	BENZO[B]THIOPHENE	13.25	390	J
6. 90-12-0	1-METHYL NAPHTHALENE	15.04	250	J
7. 1015-89-0	6(5H)-PHENANTHRIDINONE	25.61	88	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DATA SHEET NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405003Sample wt/vol: 1000 (g/mL) ML Lab File ID: D3BA010684Level: (low/med) LOW Date Received: 04/09/92Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/28/92Injection Volume: 2.0(uL) Dilution Factor: 5000.0SPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	720000	E
111-44-4-----	bis(2-Chloroethyl)Ether	50000	U
95-57-8-----	2-Chlorophenol	50000	U
541-73-1-----	1,3-Dichlorobenzene	50000	U
106-46-7-----	1,4-Dichlorobenzene	50000	U
95-50-1-----	1,2-Dichlorobenzene	50000	U
95-48-7-----	2-Methylphenol	99000	
108-60-1-----	2,2'-oxybis(1-Chloropropane)	50000	U
106-44-5-----	4-Methylphenol	480000	E
621-64-7-----	N-Nitroso-Di-n-Propylamine	50000	U
67-72-1-----	Hexachloroethane	50000	U
98-95-3-----	Nitrobenzene	50000	U
78-59-1-----	Isophorone	50000	U
88-75-5-----	2-Nitrophenol	50000	U
105-67-9-----	2,4-Dimethylphenol	40000	J
111-91-1-----	bis(2-Chloroethoxy)Methane	50000	U
120-83-2-----	2,4-Dichlorophenol	50000	U
120-82-1-----	1,2,4-Trichlorobenzene	50000	U
91-20-3-----	Naphthalene	50000	U
106-47-8-----	4-Chloroaniline	50000	U
87-68-3-----	Hexachlorobutadiene	50000	U
59-50-7-----	4-Chloro-3-Methylphenol	50000	U
91-57-6-----	2-Methylnaphthalene	50000	U
77-47-4-----	Hexachlorocyclopentadiene	50000	U
88-06-2-----	2,4,6-Trichlorophenol	50000	U
95-95-4-----	2,4,5-Trichlorophenol	120000	U
91-58-7-----	2-Chloronaphthalene	50000	U
88-74-4-----	2-Nitroaniline	120000	U
131-11-3-----	Dimethylphthalate	50000	U
208-96-8-----	Acenaphthylene	50000	U
606-20-2-----	2,6-Dinitrotoluene	50000	U
99-09-2-----	3-Nitroaniline	120000	U
83-32-9-----	Acenaphthene	50000	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Lab Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405003Sample wt/vol: 1000 (g/mL) MLLab File ID: D3BA010684Level: (low/med) LOWDate Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/28/92Injection Volume: 2.0(uL)Dilution Factor: 5000.0SPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	120000 U
100-02-7-----	4-Nitrophenol	120000 U
132-64-9-----	Dibenzofuran	50000 U
121-14-2-----	2,4-Dinitrotoluene	50000 U
84-66-2-----	Diethylphthalate	50000 U
7005-72-3-----	4-Chlorophenyl-phenylether	50000 U
86-73-7-----	Fluorene	50000 U
100-10-6-----	4-Nitroaniline	120000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	120000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	50000 U
101-55-3-----	4-Bromophenyl-phenylether	50000 U
118-74-1-----	Hexachlorobenzene	50000 U
87-86-5-----	Pentachlorophenol	120000 U
85-01-8-----	Phanthrene	50000 U
120-12-7-----	Anthracene	50000 U
86-74-8-----	Carbazole	50000 U
84-74-2-----	Di-n-Butylphthalate	50000 U
206-44-0-----	Fluoranthene	50000 U
129-00-0-----	Pyrene	50000 U
85-68-7-----	Butylbenzylphthalate	50000 U
91-94-1-----	3,3'-Dichlorobenzidine	50000 U
56-55-3-----	Benzo(a)Anthracene	50000 U
218-01-9-----	Chrysene	50000 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	50000 U
117-84-0-----	Di-n-Octyl Phthalate	50000 U
205-99-2-----	Benzo(b)Fluoranthene	50000 U
207-08-9-----	Benzo(k)Fluoranthene	50000 U
50-32-8-----	Benzo(a)Pyrene	50000 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	50000 U
53-70-3-----	Dibenz(a,h)Anthracene	50000 U
191-24-2-----	Benzo(g,h,i)Perylene	50000 U

**SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21405003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D3BA010684

Level: (low/med) LOW Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/28/92

Injection Volume: 2.0(uL) Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-68-9	PHENOL, 3,5-DIMETHYL-	12.79	42000	J

SEMOVOLATILE ORGANICS' ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1_DL

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405003DLSample wt/vol: 1000 (g/mL) MLLab File ID: D4BA010686Level: (low/med) LOWDate Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/28/92Injection Volume: 2.0(uL)Dilution Factor: 10000.0GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	690000 D
111-44-4-----	bis(2-Chloroethyl)Ether	100000 U
95-57-8-----	2-Chlorophenol	100000 U
541-73-1-----	1,3-Dichlorobenzene	100000 U
106-46-7-----	1,4-Dichlorobenzene	100000 U
95-50-1-----	1,2-Dichlorobenzene	100000 U
95-48-7-----	2-Methylphenol	84000 DJ
108-60-1-----	2,2'-oxybis(1-Chloropropane)	100000 U
106-44-5-----	4-Methylphenol	460000 D
621-64-7-----	N-Nitroso-Di-n-Propylamine	100000 U
67-72-1-----	Hexachloroethane	100000 U
98-95-3-----	Nitrobenzene	100000 U
78-59-1-----	Isophorone	100000 U
88-75-5-----	2-Nitrophenol	100000 U
105-67-9-----	2,4-Dimethylphenol	26000 DJ
111-91-1-----	bis(2-Chloroethoxy)Methane	100000 U
120-83-2-----	2,4-Dichlorophenol	100000 U
120-82-1-----	1,2,4-Trichlorobenzene	100000 U
91-20-3-----	Naphthalene	100000 U
106-47-8-----	4-Chloroaniline	100000 U
87-68-3-----	Hexachlorobutadiene	100000 U
59-50-7-----	4-Chloro-3-Methylphenol	100000 U
91-57-6-----	2-Methylnaphthalene	100000 U
77-47-4-----	Hexachlorocyclopentadiene	100000 U
88-06-2-----	2,4,6-Trichlorophenol	100000 U
95-95-4-----	2,4,5-Trichlorophenol	250000 U
91-58-7-----	2-Chloronaphthalene	100000 U
88-74-4-----	2-Nitroaniline	250000 U
131-11-3-----	Dimethylphthalate	100000 U
208-96-8-----	Acenaphthylene	100000 U
606-20-2-----	2,6-Dinitrotoluene	100000 U
99-09-2-----	3-Nitroaniline	250000 U
83-32-9-----	Acenaphthene	100000 U

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SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1_DLCode: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21405003DLSample wt/vol: 1000 (g/mL) MLLab File ID: D4BA010686Level: (low/med) LOWDate Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/28/92Injection Volume: 2.0 (uL)Dilution Factor: 10000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
51-28-5-----	2,4-Dinitrophenol	250000	U
100-02-7-----	4-Nitrophenol	250000	U
132-64-9-----	Dibenzofuran	100000	U
121-14-2-----	2,4-Dinitrotoluene	100000	U
84-66-2-----	Diethylphthalate	100000	U
7005-72-3-----	4-Chlorophenyl-phenylether	100000	U
86-73-7-----	Fluorene	100000	U
100-10-6-----	4-Nitroaniline	250000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	250000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	100000	U
101-55-3-----	4-Bromophenyl-phenylether	100000	U
118-74-1-----	Hexachlorobenzene	100000	U
87-86-5-----	Pentachlorophenol	250000	U
85-01-8-----	Phenanthrene	100000	U
120-12-7-----	Anthracene	100000	U
86-74-8-----	Carbazole	100000	U
84-74-2-----	Di-n-Butylphthalate	100000	U
206-44-0-----	Fluoranthene	100000	U
129-00-0-----	Pyrene	100000	U
85-68-7-----	Butylbenzylphthalate	100000	U
91-94-1-----	3,3'-Dichlorobenzidine	100000	U
56-55-3-----	Benzo(a)Anthracene	100000	U
218-01-9-----	Chrysene	100000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	100000	U
117-84-0-----	Di-n-Octyl Phthalate	100000	U
205-99-2-----	Benzo(b)Fluoranthene	100000	U
207-08-9-----	Benzo(k)Fluoranthene	100000	U
50-32-8-----	Benzo(a)Pyrene	100000	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	100000	U
53-70-3-----	Dibenz(a,h)Anthracene	100000	U
191-24-2-----	Benzo(g,h,i)Perylene	100000	U

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1_DL

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405003DL

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D4BA010686

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 10000.0

SPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW5D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21405004Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010682Level: (low/med) LOWDate Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/28/92Injection Volume: 2.0 (uL)Dilution Factor: 15.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	150	U
108-95-2-----	Phenol	150	U
111-44-4-----	bis(2-Chloroethyl)Ether	150	U
95-57-8-----	2-Chlorophenol	150	U
541-73-1-----	1,3-Dichlorobenzene	150	U
106-46-7-----	1,4-Dichlorobenzene	150	U
95-50-1-----	1,2-Dichlorobenzene	150	U
95-48-7-----	2-Methylphenol	1200	
108-60-1-----	2,2'-oxybis(1-Chloropropane)	150	U
106-44-5-----	4-Methylphenol	38	J
621-64-7-----	N-Nitroso-Di-n-Propylamine	150	U
67-72-1-----	Hexachloroethane	150	U
98-95-3-----	Nitrobenzene	150	U
78-59-1-----	Isophorone	150	U
88-75-5-----	2-Nitrophenol	150	U
105-67-9-----	2,4-Dimethylphenol	790	
111-91-1-----	bis(2-Chloroethoxy)Methane	150	U
120-83-2-----	2,4-Dichlorophenol	150	U
120-82-1-----	1,2,4-Trichlorobenzene	150	U
91-20-3-----	Naphthalene	150	U
106-47-8-----	4-Chloroaniline	150	U
87-68-3-----	Hexachlorobutadiene	150	U
59-50-7-----	4-Chloro-3-Methylphenol	150	U
91-57-6-----	2-Methylnaphthalene	150	U
77-47-4-----	Hexachlorocyclopentadiene	150	U
88-06-2-----	2,4,6-Trichlorophenol	150	U
95-95-4-----	2,4,5-Trichlorophenol	380	U
91-58-7-----	2-Chloronaphthalene	150	U
88-74-4-----	2-Nitroaniline	380	U
131-11-3-----	Dimethylphthalate	150	U
208-96-8-----	Acenaphthylene	150	U
606-20-2-----	2,6-Dinitrotoluene	150	U
99-09-2-----	3-Nitroaniline	380	U
83-32-9-----	Acenaphthene	150	U

SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW5D-1

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405004Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010682Level: (low/med) LOWDate Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/28/92Injection Volume: 2.0(uL)Dilution Factor: 15.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	380
100-02-7-----	4-Nitrophenol	380
132-64-9-----	Dibenzofuran	150
121-14-2-----	2,4-Dinitrotoluene	150
84-66-2-----	Diethylphthalate	150
7005-72-3-----	4-Chlorophenyl-phenylether	150
86-73-7-----	Fluorene	150
100-10-6-----	4-Nitroaniline	380
534-52-1-----	4,6-Dinitro-2-methylphenol	380
86-30-6-----	N-Nitrosodiphenylamine (1)	150
101-55-3-----	4-Bromophenyl-phenylether	150
118-74-1-----	Hexachlorobenzene	150
87-86-5-----	Pentachlorophenol	380
85-01-8-----	Phenanthrene	150
120-12-7-----	Anthracene	150
86-74-8-----	Carbazole	150
84-74-2-----	Di-n-Butylphthalate	150
206-44-0-----	Fluoranthene	150
129-00-0-----	Pyrene	150
85-68-7-----	Butylbenzylphthalate	150
91-94-1-----	3,3'-Dichlorobenzidine	150
56-55-3-----	Benzo(a)Anthracene	150
218-01-9-----	Chrysene	150
117-81-7-----	bis(2-Ethylhexyl)Phthalate	150
117-84-0-----	Di-n-Octyl Phthalate	150
205-99-2-----	Benzo(b)Fluoranthene	150
207-08-9-----	Benzo(k)Fluoranthene	150
50-32-8-----	Benzo(a)Pyrene	150
193-39-5-----	Indeno(1,2,3-cd)Pyrene	150
53-70-3-----	Dibenz(a,h)Anthracene	150
191-24-2-----	Benzo(g,h,i)Perylene	150

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW5D-1

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405004

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010682

Level: (low/med) LOW

Date Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0 (uL)

Dilution Factor: 15.0

SPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	PHENOL, DIMETHYL- ISOMER	11.80	270	J
2.	PHENOL, DIMETHYL- ISOMER	12.79	460	J
3.	PHENOL, DIMETHYL- ISOMER	12.94	240	J
4.	PHENOL, DIMETHYL- ISOMER	13.17	370	J
5. 614-60-8	2-PROPENOIC ACID, 3-(2-HYDRO	13.40	160	J
6. 17059-52-8	BENZOFURAN, 7-METHYL-	15.27	76	J
7. 491-30-5	1(2H)-ISOQUINOLINONE	20.29	360	J
8.	NOT IDENTIFIED	20.62	39	J
9. 10544-50-0	SULFUR, MOL. (S8)	24.07	44	J

SEMIVOLATILE ORGANICS' ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

M-2

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405005Sample wt/vol: 1000 (g/mL) ML Lab File ID: D3BA010687Level: (low/med) LOW Date Received: 04/09/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/28/92Injection Volume: 2.0(uL) Dilution Factor: 15.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	340
111-44-4-----	bis(2-Chloroethyl)Ether	150
95-57-8-----	2-Chlorophenol	150
541-73-1-----	1,3-Dichlorobenzene	150
106-46-7-----	1,4-Dichlorobenzene	150
95-50-1-----	1,2-Dichlorobenzene	150
95-48-7-----	2-Methylphenol	72
108-60-1-----	2,2'-oxybis(1-Chloropropane)	150
106-44-5-----	4-Methylphenol	110
621-64-7-----	N-Nitroso-Di-n-Propylamine	150
67-72-1-----	Hexachloroethane	150
98-95-3-----	Nitrobenzene	150
78-59-1-----	Isophorone	150
88-75-5-----	2-Nitrophenol	150
105-67-9-----	2,4-Dimethylphenol	36
111-91-1-----	bis(2-Chloroethoxy)Methane	150
120-83-2-----	2,4-Dichlorophenol	150
120-82-1-----	1,2,4-Trichlorobenzene	150
91-20-3-----	Naphthalene	1100
106-47-8-----	4-Chloroaniline	150
87-68-3-----	Hexachlorobutadiene	150
59-50-7-----	4-Chloro-3-Methylphenol	150
91-57-6-----	2-Methylnaphthalene	17
77-47-4-----	Hexachlorocyclopentadiene	150
88-06-2-----	2,4,6-Trichlorophenol	150
95-95-4-----	2,4,5-Trichlorophenol	380
91-58-7-----	2-Chloronaphthalene	150
88-74-4-----	2-Nitroaniline	380
131-11-3-----	Dimethylphthalate	150
208-96-8-----	Acenaphthylene	150
606-20-2-----	2,6-Dinitrotoluene	150
99-09-2-----	3-Nitroaniline	380
83-32-9-----	Acenaphthene	150

SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

M-2

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21405005

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D3BA010687

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/28/92

Injection Volume: 2.0(uL)

Dilution Factor: 15.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
51-28-5-----	2,4-Dinitrophenol	380	U
100-02-7-----	4-Nitrophenol	380	U
132-64-9-----	Dibenzofuran	49	J
121-14-2-----	2,4-Dinitrotoluene	150	U
84-66-2-----	Diethylphthalate	150	U
7005-72-3-----	4-Chlorophenyl-phenylether	150	U
86-73-7-----	Fluorene	20	J
100-10-6-----	4-Nitroaniline	380	U
534-52-1-----	4,6-Dinitro-2-methylphenol	380	U
86-30-6-----	N-Nitrosodiphenylamine (1)	150	U
101-55-3-----	4-Bromophenyl-phenylether	150	U
118-74-1-----	Hexachlorobenzene	150	U
87-86-5-----	Pentachlorophenol	380	U
85-01-8-----	Phenanthrene	150	U
120-12-7-----	Anthracene	150	U
86-74-8-----	Carbazole	95	J
84-74-2-----	Di-n-Butylphthalate	150	U
206-44-0-----	Fluoranthene	150	U
129-00-0-----	Pyrene	150	U
85-68-7-----	Butylbenzylphthalate	150	U
91-94-1-----	3,3'-Dichlorobenzidine	150	U
56-55-3-----	Benzo(a)Anthracene	150	U
218-01-9-----	Chrysene	150	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	150	U
117-84-0-----	Di-n-Octyl Phthalate	150	U
205-99-2-----	Benzo(b)Fluoranthene	150	U
207-08-9-----	Benzo(k)Fluoranthene	150	U
50-32-8-----	Benzo(a)Pyrene	150	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	150	U
53-70-3-----	Dibenz(a,h)Anthracene	150	U
191-24-2-----	Benzo(g,h,i)Perylene	150	U

**SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

M-2

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21405005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D3BA010687

Level: (low/med) LOW Date Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/28/92

Injection Volume: 2.0(uL) Dilution Factor: 15.0

SPC Cleanup: (Y/N) N pH: _____

Number TICs found: 7

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BENZENE, 1-ETHENYL-METHYL-	10.55	360	J
2.	BENZENE, 1-ETHYNYL-METHYL-	10.72	240	J
3. 17059-52-8	BENZOFURAN, 7-METHYL-	11.74	98	J
4. 767-58-8	1H-INDENE, 2,3-DIHYDRO-1-MET	12.52	70	J
5. 95-15-8	BENZO[B]THIOPHENE	13.24	330	J
6. 90-12-0	NAPHTHALENE, 1-METHYL	15.04	200	J
7. 1015-89-0	6(5H)-PHENANTHRIDINONE	25.64	64	J

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW5S-1

Code: CH2MCase No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405001Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/09/92Extraction: (SepF/Cont/Sonc) SEPFDate Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL)Date Analyzed: 05/05/92Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

319-84-6-----	<u>alpha-BHC</u>	0.050	U
319-85-7-----	<u>beta-BHC</u>	0.050	U
319-86-8-----	<u>delta-BHC</u>	0.050	U
58-89-9-----	<u>gamma-BHC (Lindane)</u>	0.050	U
76-44-8-----	<u>Heptachlor</u>	0.050	U
309-00-2-----	<u>Aldrin</u>	0.050	U
1024-57-3-----	<u>Heptachlor epoxide</u>	0.050	U
959-98-8-----	<u>Endosulfan I</u>	0.050	U
60-57-1-----	<u>Dieldrin</u>	0.10	U
72-55-9-----	<u>4,4'-DDE</u>	0.10	U
72-20-8-----	<u>Endrin</u>	0.10	U
33213-65-9-----	<u>Endosulfan II</u>	0.10	U
72-54-8-----	<u>4,4'-DDD</u>	0.10	U
1031-07-8-----	<u>Endosulfan sulfate</u>	0.10	U
50-29-3-----	<u>4,4'-DDT</u>	0.10	U
72-43-5-----	<u>Methoxychlor</u>	0.50	U
53494-70-5-----	<u>Endrin ketone</u>	0.10	U
7421-36-3-----	<u>Endrin aldehyde</u>	0.10	U
5103-71-9-----	<u>alpha-Chlordane</u>	0.050	U
5103-74-2-----	<u>gamma-Chlordane</u>	0.050	U
8001-35-2-----	<u>Toxaphene</u>	5.0	U
12674-11-2-----	<u>Aroclor-1016</u>	1.0	U
11104-28-2-----	<u>Aroclor-1221</u>	2.0	U
11141-16-5-----	<u>Aroclor-1232</u>	1.0	U
53469-21-9-----	<u>Aroclor-1242</u>	1.0	U
12672-29-6-----	<u>Aroclor-1248</u>	1.0	U
11097-69-1-----	<u>Aroclor-1254</u>	1.0	U
11096-82-5-----	<u>Aroclor-1260</u>	1.0	U

grw

PESTICIDE ORGANICS ANALYSIS DATA SHEET

MW6S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2MCase No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21405002Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/09/92Extraction: (SepF/Cont/Sonc) SEPFDate Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL)Date Analyzed: 05/05/92Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
319-84-6-----	alpha-BHC	0.050 U
319-85-7-----	beta-BHC	0.050 U
319-86-8-----	delta-BHC	0.050 U
58-89-9-----	gamma-BHC (Lindane)	0.050 U
76-44-8-----	Heptachlor	0.050 U
309-00-2-----	Aldrin	0.050 U
1024-57-3-----	Heptachlor epoxide	0.050 U
959-98-8-----	Endosulfan I	0.050 U
60-57-1-----	Dieldrin	0.10 U
72-55-9-----	4,4'-DDE	0.10 U
72-20-8-----	Endrin	0.10 U
33213-65-9-----	Endosulfan II	0.10 U
72-54-8-----	4,4'-DDD	0.10 U
1031-07-8-----	Endosulfan sulfate	0.10 U
50-29-3-----	4,4'-DDT	0.10 U
72-43-5-----	Methoxychlor	0.50 U
53494-70-5-----	Endrin ketone	0.10 U
7421-36-3-----	Endrin aldehyde	0.10 U
5103-71-9-----	alpha-Chlordane	0.050 U
5103-74-2-----	gamma-Chlordane	0.050 U
8001-35-2-----	Toxaphene	5.0 U
12674-11-2-----	Aroclor-1016	2.0 U
11104-28-2-----	Aroclor-1221	4.0 U
11141-16-5-----	Aroclor-1232	2.0 U
53469-21-9-----	Aroclor-1242	2.0 U
12672-29-6-----	Aroclor-1248	2.0 U
11097-69-1-----	Aroclor-1254	2.0 U
11096-82-5-----	Aroclor-1260	2.0 U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

LIA DATE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW6D-1

Code: CH2M Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405003Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/09/92Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/05/92Injection Volume: 2.00 (uL) Dilution Factor: 5.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

319-84-6-----	alpha-BHC	0.50	U
319-85-7-----	beta-BHC	0.50	U
319-86-8-----	delta-BHC	0.50	U
58-89-9-----	gamma-BHC (Lindane)	0.50	U
76-44-8-----	Heptachlor	0.50	U
309-00-2-----	Aldrin	0.50	U
1024-57-3-----	Heptachlor epoxide	0.50	U
959-98-8-----	Endosulfan I	0.50	U
60-57-1-----	Dieldrin	1.0	U
72-55-9-----	4,4'-DDE	1.0	U
72-20-8-----	Endrin	1.0	U
33213-65-9-----	Endosulfan II	1.0	U
72-54-8-----	4,4'-DDD	1.0	U
1031-07-8-----	Endosulfan sulfate	1.0	U
50-29-3-----	4,4'-DDT	1.0	U
72-43-5-----	Methoxychlor	5.0	U
53494-70-5-----	Endrin ketone	1.0	U
7421-36-3-----	Endrin aldehyde	1.0	U
5103-71-9-----	alpha-Chlordane	0.50	U
5103-74-2-----	gamma-Chlordane	0.50	U
8001-35-2-----	Toxaphene	50	U
12674-11-2-----	Aroclor-1016	25	U
11104-28-2-----	Aroclor-1221	50	U
11141-16-5-----	Aroclor-1232	25	U
53469-21-9-----	Aroclor-1242	25	U
12672-29-6-----	Aroclor-1248	25	U
11097-69-1-----	Aroclor-1254	25	U
11096-82-5-----	Aroclor-1260	25	U

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW5D-1

Lab Code: CH2M Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21405004Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/09/92Extraction: (SepF/Cont/Sonc) SEPFDate Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL)Date Analyzed: 05/06/92Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>319-84-6-----alpha-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-85-7-----beta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-86-8-----delta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>58-89-9-----gamma-BHC (Lindane)</u>	<u>0.050</u>	<u>U</u>
<u>76-44-8-----Heptachlor</u>	<u>0.050</u>	<u>U</u>
<u>309-00-2-----Aldrin</u>	<u>0.050</u>	<u>U</u>
<u>1024-57-3-----Heptachlor epoxide</u>	<u>0.050</u>	<u>U</u>
<u>959-98-8-----Endosulfan I</u>	<u>0.050</u>	<u>U</u>
<u>60-57-1-----Dieldrin</u>	<u>0.10</u>	<u>U</u>
<u>72-55-9-----4,4'-DDE</u>	<u>0.10</u>	<u>U</u>
<u>72-20-8-----Endrin</u>	<u>0.10</u>	<u>U</u>
<u>33213-65-9-----Endosulfan II</u>	<u>0.10</u>	<u>U</u>
<u>72-54-8-----4,4'-DDD</u>	<u>0.10</u>	<u>U</u>
<u>1031-07-8-----Endosulfan sulfate</u>	<u>0.10</u>	<u>U</u>
<u>50-29-3-----4,4'-DDT</u>	<u>0.10</u>	<u>U</u>
<u>72-43-5-----Methoxychlor</u>	<u>0.50</u>	<u>U</u>
<u>53494-70-5-----Endrin ketone</u>	<u>0.10</u>	<u>U</u>
<u>7421-36-3-----Endrin aldehyde</u>	<u>0.10</u>	<u>U</u>
<u>5103-71-9-----alpha-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>5103-74-2-----gamma-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>8001-35-2-----Toxaphene</u>	<u>5.0</u>	<u>U</u>
<u>12674-11-2-----Aroclor-1016</u>	<u>2.0</u>	<u>U</u>
<u>11104-28-2-----Aroclor-1221</u>	<u>4.0</u>	<u>U</u>
<u>11141-16-5-----Aroclor-1232</u>	<u>2.0</u>	<u>U</u>
<u>53469-21-9-----Aroclor-1242</u>	<u>2.0</u>	<u>U</u>
<u>12672-29-6-----Aroclor-1248</u>	<u>2.0</u>	<u>U</u>
<u>11097-69-1-----Aroclor-1254</u>	<u>2.0</u>	<u>U</u>
<u>11096-82-5-----Aroclor-1260</u>	<u>2.0</u>	<u>U</u>

PESTICIDE ORGANICS ANALYSIS DATA SHEET

LIA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

M-2

Code: CH2M Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21405005Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/09/92Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/06/92Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
319-84-6-----	alpha-BHC	0.050 U
319-85-7-----	beta-BHC	0.050 U
319-86-8-----	delta-BHC	0.050 U
58-89-9-----	gamma-BHC (Lindane)	0.050 U
76-44-8-----	Heptachlor	0.050 U
309-00-2-----	Aldrin	0.050 U
1024-57-3-----	Heptachlor epoxide	0.050 U
959-98-8-----	Endosulfan I	0.050 U
60-57-1-----	Dieldrin	0.10 U
72-55-9-----	4,4'-DDE	0.10 U
72-20-8-----	Endrin	0.10 U
33213-65-9-----	Endosulfan II	0.10 U
72-54-8-----	4,4'-DDD	0.10 U
1031-07-8-----	Endosulfan sulfate	0.10 U
50-29-3-----	4,4'-DDT	0.10 U
72-43-5-----	Methoxychlor	0.50 U
53494-70-5-----	Endrin ketone	0.10 U
7421-36-3-----	Endrin aldehyde	0.10 U
5103-71-9-----	alpha-Chlordane	0.050 U
5103-74-2-----	gamma-Chlordane	0.050 U
8001-35-2-----	Toxaphene	5.0 U
12674-11-2-----	Aroclor-1016	2.0 U
11104-28-2-----	Aroclor-1221	4.0 U
11141-16-5-----	Aroclor-1232	2.0 U
53469-21-9-----	Aroclor-1242	2.0 U
12672-29-6-----	Aroclor-1248	2.0 U
11097-69-1-----	Aroclor-1254	2.0 U
11096-82-5-----	Aroclor-1260	2.0 U

[Signature]

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	SMC1 (TOL)*	SMC2 (BFB)*	SMC3 (DCE)*	OTHER	TOT OUT
01 FB-2	95	101	103	0	0
02 M-2	95	95	100	0	0
03 MW5D-1	96	98	99	0	0
04 MW5S-1	94	98	101	0	0
05 MW6D-1	96	98	103	0	0
06 MW6S-1	98	100	100	0	0
07 MW5S-1MS	100	101	101	0	0
08 MW5S-1MSD	98	99	100	0	0
09 VBLKW	94	94	98	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)

SMC2 (BFB) = Bromofluorobenzene (86-115)

SMC3 (DCE) = 1,2-Dichloroethane-d4(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01 M-2	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 0
02 MW5D-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 0
03 MW5S-1	68	42 *	47	78	70	58	67	41	1 1
04 MW5S-1MSD	59	42 *	42	74	68	44	63	39	1 1
05 MW6D-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 0
06 MW6D-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 0
07 MW6S-1	76	56	58	89	68	82	78	60	0 0
08 MW6S-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 0
09 MW5S-1MS	49	33 *	36	58	52	39	50	29	1 1
10 SBLKW	53	51	54	68	67	42	63	41	0 0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-110)
S5 (2FP) = 2-Fluorophenol	(21-110)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)
S7 (2CP) = 2-Chlorophenol-d4	(33-110) (advisory)
S8 (DCB) = 1,2-Dichlorobenzene-d4	(16-110) (advisory)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2MCase No.: 21405

SAS No.: _____ SDG No.: _____

GC Column(1): SPB-5 ID: 0.53(mm)GC Column(2): SPB-608 ID: 0.53(r)

EPA SAMPLE NO.	TCX #REC #	TCX #REC #	DCB #REC #	DCB #REC #	OTHER (1)	OTHER (2)	TOT OUT
01 PBLK09	67	58*	80	79			1
02 M-2	65	86	61	53*			1
03 MW5D-1	57*	61	72	63			1
04 MW5S-1	80	67	51*	40*			2
05 MW5S-1MS	49*	39*	51*	46*			4
06 MW5S-1MSD	61	51*	56*	49*			3
07 MW6D-1	62	0*	83	97			1
08 MW6S-1	58*	67	56*	51*			3

**ADVISORY
QC LIMITS**
 (60-150)
 (60-150)

TCX = Tetrachloro-m-xylene
 DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of contract required QC limits
 D Surrogate diluted out

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CH2M HILL/MGM Contract: _____

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix Spike - EPA Sample No.: MW5S-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	250.0	12.40	242.5	92	61-145
Trichloroethene	250.0	0	263.0	105	71-120
Benzene	250.0	69.50	335.5	106	76-127
Toluene	250.0	0	244.5	98	76-125
Chlorobenzene	250.0	0	249.5	100	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	250.0	256.5	98	6	14	61-145
Trichloroethene	250.0	268.5	107	2	14	71-120
Benzene	250.0	338.0	107	1	11	76-127
Toluene	250.0	249.5	100	2	13	76-125
Chlorobenzene	250.0	253.5	101	1	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: CLP, 21405,, MW5S-1,L,W, 21405001,V,E,
10DG TO 160DG @4DG/MIN IH=7MIN

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix Spike - EPA Sample No.: MW5S-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS REC #	QC LIMITS REC.
Phenol	75.00	46.60	53.80	10 *	12-110
2-Chlorophenol	75.00	0	32.60	43	27-123
1,4-Dichlorobenzene	50.00	0	17.80	36	36- 97
N-Nitroso-di-n-prop.(1)	50.00	0	29.00	58	41-116
1,2,4-Trichlorobenzene	50.00	0	17.20	34 *	39- 98
4-Chloro-3-methylphenol	75.00	0	33.90	45	23- 97
Acenaphthene	50.00	0	17.70	35 *	46-118
4-Nitrophenol	75.00	0	39.10	52	10- 80
2,4-Dinitrotoluene	50.00	0	24.00	48	24- 96
Pentachlorophenol	75.00	0	31.80	42	9-10?
Pyrene	50.00	0	22.70	45	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD REC #	MSD RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75.00	120.0	98	163 *	42	12-110
2-Chlorophenol	75.00	40.50	54	23	40	27-123
1,4-Dichlorobenzene	50.00	23.10	46	24	28	36- 97
N-Nitroso-di-n-prop.(1)	50.00	34.90	70	19	38	41-116
1,2,4-Trichlorobenzene	50.00	21.50	43	23	28	39- 98
4-Chloro-3-methylphenol	75.00	40.90	55	20	42	23- 97
Acenaphthene	50.00	24.70	49	33 *	31	46-118
4-Nitrophenol	75.00	43.90	59	13	50	10- 8
2,4-Dinitrotoluene	50.00	25.40	51	6	38	24- 96
Pentachlorophenol	75.00	34.60	46	9	50	9-103
Pyrene	50.00	24.60	49	9	31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 11 outside limitsSpike Recovery: 3 out of 22 outside limitsCOMMENTS: CLP, 21405,, MW5S-1,L,W, 21405001, BNA, EPA,
30DG TO 300DG @10DG/MIN IH=4MINS

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

T-h Code: CH2MCase No.: 21405

SAS No.: _____

SDG No.: _____

Matrix Spike - EPA Sample No.: MW5S-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane) _____	0.500	0	0.290	58	56-123
Heptachlor _____	0.500	0	0.267	53	40-131
Aldrin _____	0.500	0	0.200	40	40-120
Dieldrin _____	1.000	0	0.697	70	52-126
Endrin _____	1.000	0	0.807	81	56-121
4,4'-DDT _____	1.000	0	0.760	76	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	MSD % RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane) _____	0.500	0.358	72	-22 *	15	56-123
Heptachlor _____	0.500	0.334	67	-23 *	20	40-131
Aldrin _____	0.500	0.245	49	-20	22	40-120
Dieldrin _____	1.000	0.775	78	-11	18	52-126
Endrin _____	1.000	0.912	91	-12	21	56-121
4,4'-DDT _____	1.000	0.843	84	-10	27	38-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 6 outside limitsSpike Recovery: 0 out of 12 outside limits

COMMENTS:

VOLATILE METHOD BLANK SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Lab File ID: CBVO021477Lab Sample ID: X04152B1Date Analyzed: 04/15/92Time Analyzed: 0739GC Column: CAPID: 0.530 (mm)Heated Purge: (Y/N) YInstrument ID: 4500

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 FB-2	21405006	C1VO021480	0923
02 M-2	21405005	C1VO021489	1435
03 MW5D-1	21405004	C1VO021491	1539
04 MW5S-1	21405001	C1VO021479	0850
05 MW6D-1	21405003	C1VO021490	1507
06 MW6S-1	21405002	C1VO021488	1358
07 MW5S-1MS	21405M01	CMVO021484	1140
08 MW5S-1MSD	21405D01	CMVO021485	1214

COMMENTS: CLP, 21396, ,VBLKW,L,W,X04152B1,V,B,
10DG TO 160DG @4DG/MIN IH=7MIN

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: X04152B1Sample wt/vol: 5.0 (g/mL) MLLab File ID: CBVO021477Level: (low/med) LOWDate Received: 04/15/92

Moisture: not dec. _____

Date Analyzed: 04/15/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	J
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloroproppane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKW

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: X04152B1

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CBVO021477

Level: (low/med) LOW

Date Received: 04/15/92

% Moisture: not dec. _____

Date Analyzed: 04/15/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	19.60	14	J
2.	NOT IDENTIFIED	22.70	10	J

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKWCode: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____Lab File ID: DBBA010614 Lab Sample ID: C04092B1Instrument ID: 5100D Date Extracted: 04/09/92Matrix: (soil/water) WATER Date Analyzed: 04/21/92Level: (low/med) LOW Time Analyzed: 1950

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01 M-2	21405005	D3BA010687	04/28/92
02 MW5D-1	21405004	D1BA010682	04/28/92
03 MW5S-1	21405001	D1BA010624	04/22/92
04 MW6D-1	21405003	D3BA010684	04/28/92
05 MW6D-1_DL	21405003DL	D4BA010686	04/28/92
06 MW6S-1	21405002	D1BA010625	04/22/92
07 MW6S-1_DL	21405002DL	D2BA010680	04/28/92
08 MW5S-1MS	21405M01	DMBA010628	04/22/92
09 MW5S-1MSD	21405D01	DMBA010629	04/22/92

MENTS: CLP, 21396,, SBLKW, L,W,C04092B1,B, BLANK,
30DG TO 310DG @10DG/MIN IH=4MINS

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Lab Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: C04092B1Sample wt/vol: 1000 (g/mL) MLLab File ID: DBBA010614Level: (low/med) LOWDate Received: 04/09/92Moisture: _____ decanted: (Y/N) Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/21/92Injection Volume: 2.0 (uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LQ

CAS NO.	COMPOUND	10	U
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SFA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKWCode: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: C04092B1Sample wt/vol: 1000 (g/mL) MLLab File ID: DBBA010614Level: (low/med) LOWDate Received: 04/09/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/21/92Injection Volume: 2.0(uL)Dilution Factor: 1.0SPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	25	U
51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-10-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-Butylphthalate	4	J
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	10	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

LIA DATA NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Lab Code: _____ Case No.: 21405 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: C04092B1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: DBBA010614

Level: (low/med) LOW

Date Received: 04/09/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/09/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-94-1	CYCLOHEXANONE (ACN)	9.17	22	J
2.	NOT IDENTIFIED	11.25	14	J

PESTICIDE METHOD BLANK SUMMARY

PBLK09

Lab Name: CH2M HILL/MGM

Contract: _____

Code: CH2M Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab Sample ID: W04092B1

Lab File ID: _____

Matrix: (soil/water) WATERExtraction: (SepF/Cont/Sonc) SEPFSulfur Cleanup: (Y/N) YDate Extracted: 04/09/92Date Analyzed (1): 05/05/92Date Analyzed (2): 05/05/92Time Analyzed (1): 0930Time Analyzed (2): 0930Instrument ID (1): V6000AInstrument ID (2): V6000BGC Column (1): SPB-5 ID: 0.53 (mm) GC Column (2): SPB-608 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01 M-2	21405005	05/06/92	05/06/92
02 MW5D-1	21405004	05/06/92	05/06/92
03 MW5S-1	21405001	05/05/92	05/05/92
04 MW6D-1	21405003	05/05/92	05/05/92
05 MW6S-1	21405002	05/05/92	05/05/92
06 MW5S-1MS	21405M01	05/06/92	05/06/92
07 MW5S-1MSD	21405D01	05/06/92	05/06/92

COMMENTS:

PESTICIDE ORGANICS ANALYSIS DATA SHEET

PBLK09

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2MCase No.: 21405

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: W04092B1Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPFDate Extracted: 04/09/92Concentrated Extract Volume: 10000 (uL)Date Analyzed: 05/05/92Injection Volume: 2.00 (uL)Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LQ

<u>319-84-6-----alpha-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-85-7-----beta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-86-8-----delta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>58-89-9-----gamma-BHC (Lindane)</u>	<u>0.050</u>	<u>U</u>
<u>76-44-8-----Heptachlor</u>	<u>0.050</u>	<u>U</u>
<u>309-00-2-----Aldrin</u>	<u>0.050</u>	<u>U</u>
<u>1024-57-3-----Heptachlor epoxide</u>	<u>0.050</u>	<u>U</u>
<u>959-98-8-----Endosulfan I</u>	<u>0.050</u>	<u>U</u>
<u>60-57-1-----Dieldrin</u>	<u>0.10</u>	<u>U</u>
<u>72-55-9-----4,4'-DDE</u>	<u>0.10</u>	<u>U</u>
<u>72-20-8-----Endrin</u>	<u>0.10</u>	<u>U</u>
<u>33213-65-9-----Endosulfan II</u>	<u>0.10</u>	<u>U</u>
<u>72-54-8-----4,4'-DDD</u>	<u>0.10</u>	<u>U</u>
<u>1031-07-8-----Endosulfan sulfate</u>	<u>0.10</u>	<u>U</u>
<u>50-29-3-----4,4'-DDT</u>	<u>0.10</u>	<u>U</u>
<u>72-43-5-----Methoxychlor</u>	<u>0.50</u>	<u>U</u>
<u>53494-70-5-----Endrin ketone</u>	<u>0.10</u>	<u>U</u>
<u>7421-36-3-----Endrin aldehyde</u>	<u>0.10</u>	<u>U</u>
<u>5103-71-9-----alpha-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>5103-74-2-----gamma-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>8001-35-2-----Toxaphene</u>	<u>5.0</u>	<u>U</u>
<u>12674-11-2-----Aroclor-1016</u>	<u>1.0</u>	<u>U</u>
<u>11104-28-2-----Aroclor-1221</u>	<u>2.0</u>	<u>U</u>
<u>11141-16-5-----Aroclor-1232</u>	<u>1.0</u>	<u>U</u>
<u>53469-21-9-----Aroclor-1242</u>	<u>1.0</u>	<u>U</u>
<u>12672-29-6-----Aroclor-1248</u>	<u>1.0</u>	<u>U</u>
<u>11097-69-1-----Aroclor-1254</u>	<u>1.0</u>	<u>U</u>
<u>11096-82-5-----Aroclor-1260</u>	<u>1.0</u>	<u>U</u>

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

I Code: _____

Case No.: 21405

SAS No.: _____

SDG No.: _____

File ID (Standard): CSV0021476Date Analyzed: 04/15/92Instrument ID: 4500Time Analyzed: 0654GC Column: CAP ID: 0.530(mm)Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
12 HOUR STD	73510	12.17	299267	13.65	249990	18.52
UPPER LIMIT	147020	12.67	598534	14.15	499980	19.02
LOWER LIMIT	36755	11.67	149634	13.15	124995	18.02
EPA SAMPLE NO.						
01 FB-2	78638	12.15	322735	13.62	279735	18.52
02 M-2	74443	12.14	287290	13.62	256053	18.49
03 MW5D-1	71500	12.10	273037	13.57	243385	18.49
04 MW5S-1	81979	12.14	328710	13.62	283532	18.50
05 MW6D-1	64367	12.15	258037	13.62	223054	18.50
06 MW6S-1	75610	12.14	296199	13.60	254798	18.50
07 MW5S-1MS	81194	12.17	314310	13.64	272688	18.52
MW5S-1MSD	82355	12.15	325760	13.62	280323	18.52
VBLKW	81710	12.12	314992	13.60	278798	18.50

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010601Date Analyzed: 04/21/92Instrument ID: 5100DTime Analyzed: 0828

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	16974	11.47	54376	14.42	28958	18.82
UPPER LIMIT	33948	11.97	108752	14.92	57916	19.32
LOWER LIMIT	8487	10.97	27188	13.92	14479	18.32
EPA SAMPLE NO.						
01 SBLKW	13023	11.42	53155	14.37	27618	18.79

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMOVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

File ID (Standard): DSBA010601Date Analyzed: 04/21/92Instrument ID: 5100DTime Analyzed: 0828

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	39214	22.59	33385	29.51	30213	33.19
UPPER LIMIT	78428	23.09	66770	30.01	60426	33.69
LOWER LIMIT	19607	22.09	16692	29.01	15106	32.69
EPA SAMPLE NO.						
01 SBLKW	39489	22.55	28774	29.47	23961	32.92

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616Date Analyzed: 04/22/92Instrument ID: 5100DTime Analyzed: 0904

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	17318	11.30	64323	14.30	38328	18.75
UPPER LIMIT	34636	11.80	128646	14.80	76656	19.25
LOWER LIMIT	8659	10.80	32162	13.80	19164	18.25
EPA SAMPLE NO.						
01 MW5S-1	11183	11.32	44482	14.35	26006	18.82
02 MW6S-1	11906	11.32	46411	14.37	27531	18.82
03 MW5S-1MS	12265	11.25	48929	14.25	29000	18.69
04 MW5S-1MSD	11675	11.24	48680	14.24	30230	18.67

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMOVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Tran Code: _____

Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616Date Analyzed: 04/22/92Instrument ID: 5100DTime Analyzed: 0904

	IS4(PHN)		IS5(CRY)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	58733	22.54	52580	29.47	51719	33.14
UPPER LIMIT	117466	23.04	105160	29.97	103438	33.64
LOWER LIMIT	29366	22.04	26290	28.97	25860	32.64
EPA SAMPLE NO.						
01 MW5S-1	44231	22.59	36897	29.51	36282	33.19
02 MW6S-1	44830	22.59	35874	29.52	34858	33.21
03 MW5S-1MS	43720	22.47	39338	29.37	38984	33.02
04 MW5S-1MSD	47079	22.44	42022	29.36	42392	33.01

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010679Date Analyzed: 04/28/92Instrument ID: 5100DTime Analyzed: 0649

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	10698	10.12	41003	13.05	22694	17.40
UPPER LIMIT	21396	10.62	82006	13.55	45388	17.90
LOWER LIMIT	5349	9.62	20502	12.55	11347	16.90
EPA SAMPLE NO.						
01 M-2	7878	10.09	38257	13.05	17435	17.40
02 MW5D-1	10086	10.10	36033	13.04	19306	17.39
03 MW6D-1	7833	10.14	32091	13.07	16623	17.42
04 MW6D-1_DL	6959	10.12	32557	13.07	16959	17.44
05 MW6S-1_DL	7852	10.09	35946	13.05	17955	17.40

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21405

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010679Date Analyzed: 04/28/92Instrument ID: 5100DTime Analyzed: 0649

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	32588	21.09	27046	27.87	25233	31.31
UPPER LIMIT	65176	21.59	54092	28.37	50466	31.81
LOWER LIMIT	16294	20.59	13523	27.37	12616	30.81
EPA SAMPLE NO.						
01 M-2	25533	21.09	18252	27.89	16075	31.32
02 MW5D-1	29031	21.09	22850	27.87	20717	31.31
03 MW6D-1	23544	21.10	18018	27.89	14475	31.32
04 MW6D-1_DL	23869	21.12	17027	27.92	14876	31.36
05 MW6S-1_DL	26146	21.09	20263	27.89	19072	31.32

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SAMPLE DATA PACKAGE

000068

00069

CASE NARRATIVE

SAMPLE DATA PACKAGE



CASE NARRATIVE FOR VOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDG NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

LAB <u>ID</u>	CLIENT <u>ID</u>	SAMPLE <u>MATRIX</u>	DATE <u>SAMPLED</u>	EXTRACTION <u>DATE</u>	ANALYSIS <u>DATE</u>
21405001	MW5S-1	WATER	04/08/92	NA	04/15/92
21405002	MW6S-1	WATER	04/08/92	NA	04/15/92
21405003	MW6D-1	WATER	04/08/92	NA	04/15/92
21405004	MW5D-1	WATER	04/08/92	NA	04/15/92
21405005	M-2	WATER	04/08/92	NA	04/15/92
21405006	FB-2	WATER	04/08/92	NA	04/15/92
21405M01	MW5S-1MS	WATER	04/08/92	NA	04/15/92
21405D01	MW5S-1MSD	WATER	04/08/92	NA	04/15/92
X04152B1	VBLKW	WATER	NA	NA	04/15/92

C. Documentation

Exceptions : No exceptions were encountered.



VOLATILE
LAB NO. 21405
PAGE 2

II. EXTRACTION

- A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.
- B. Extraction
Exceptions : Not applicable.

III. ANALYSIS

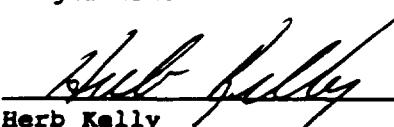
- A. Holding times: All holding times were met.
- B. Analytical
Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.
No exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate
Recoveries : All samples met acceptable QC limits.
- C. Matrix Spike
Results : All spike recoveries were within CLP advisory limits.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

Date



Engineers
Planners
Economists
Scientists

CASE NARRATIVE FOR SEMIVOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDG NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21405001	MW5S-1	WATER	04/08/92	04/09/92	04/22/92
21405002	MW6S-1	WATER	04/08/92	04/09/92	04/22/92
21405002DL	MW6S-1 DL	WATER	04/08/92	04/09/92	04/28/92
21405003	MW6D-1	WATER	04/08/92	04/09/92	04/28/92
21405003DL	MW6D-1 DL	WATER	04/08/92	04/09/92	04/28/92
21405004	MW5D-1	WATER	04/08/92	04/09/92	04/28/92
21405005	M-2	WATER	04/08/92	04/09/92	04/28/92
21405M01	MW5S-1MS	WATER	04/08/92	04/09/92	04/22/92
21405D01	MW5S-1MSD	WATER	04/08/92	04/09/92	04/22/92
CO4092B1	SBLKW	WATER	NA	04/09/92	04/21/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

No other exceptions were encountered.

II. EXTRACTION

A. Holding Times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : Samples 21405002 (MW6S-1), 21405003 (MW6D-1), 21405004 (MW5D-1), and 21405005 (M-2) required dilutions for analysis due to the high level of target compounds present in the samples.

The original analysis of samples 21405002 and 21405003 showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

No other exceptions were encountered.

IV. QUALITY CONTROL

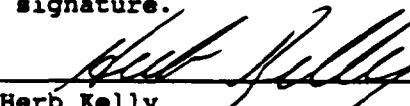
A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate Recoveries : Surrogate recoveries could not be determined for samples 21405002DL (MW6S-1 DL), 21405003 (MW6D-1), 21405003DL (MW6D-1 DL), 21405004 (MW5D-1), and 21405005 (M-2) due to the dilutions required for analysis. All other samples met acceptable QC limits.

C. Matrix Spike Results : Please note that the percent recoveries for Phenol, 1,2,4-Trichlorobenzene, and Acenaphthene in sample 21405M01 were outside QC limits. Also note that the relative percent differences for Phenol and Acenaphthene were outside QC limits. Since these limits are advisory only, the laboratory took no further action. All other spike recoveries were within CLP advisory limits.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

6/4/92
Date



**CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES**

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21405

SDG NO.: N/A

I. RECEIPT

A. DATE: April 9, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21405001	MW5S-1	WATER	04/08/92	04/09/92	05/05/92
21405002	MW6S-1	WATER	04/08/92	04/09/92	05/05/92
21405003	MW6D-1	WATER	04/08/92	04/09/92	05/05/92
21405004	MW5D-1	WATER	04/08/92	04/09/92	05/06/92
21405005	M-2	WATER	04/08/92	04/09/92	05/06/92
21405M01	MW5S-1MS	WATER	04/08/92	04/09/92	05/06/92
21405D01	MW5S-1MSD	WATER	04/08/92	04/09/92	05/06/92
W04092B1	PBLK09	WATER	NA	04/09/92	05/05/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

A. Holding times: All holding times were met.

B. Analytical

Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.

Some extracts offered chemical interferences even after appropriate cleanup procedures were applied. For sample 21405003 (MW6D-1), report limits were raised beyond values predicted from the dilution factor alone. For samples 21405002 (MW6S-1), 21405004 (MWSD-1) and 21405005 (M-2), the PCB report limits were raised because of chemical interferences.

No additional exceptions were encountered.

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

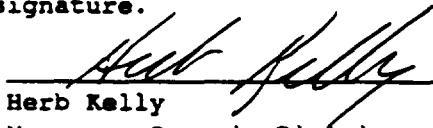
B. Surrogate Recoveries : All samples did not meet advisory QC limits.

C. Matrix Spike Results : The relative percent differences for gamma-BHC and Heptachlor were outside advisory QC limits. Since these limits are advisory only, the laboratory took no further action. All other spike recoveries met advisory QC limits.

D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

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Herb Kelly
Manager, Organic Division

Date

6/4/92

SAMPLE DATA PACKAGE
SHIPPING RECEIPTS

000076

DDY
"W.W."
HARD ENGINEERING CO.
1503 GLENROY ROAD
MINNEAPOLIS, MN 55439

**RING CO.
603 GLENROY ROAD
MINNEAPOLIS, MN 55439**

PROJECT NUMBER N-01511

1314191-1003751311

1103

SAMPLE IDENTIFICATION	COLLECTION		GRAB	COMP.	BLANK	VOLATILE	SEMIVOL.	FILTERED	UNFILTERED	GENERAL	CYANIDE	NUTRIENT	OIL AND TOC	SULFIDE	DIOXIN	TOTAL N	REMARKS/ ANALYSIS REQUIRED:	
	DATE	TIME																
MW65-1	5/8/92		X			21						*	20-19/05			0.164		
MW50-1			X													0.001	See	
MW60-1			X													0.001	List	
MW55-1/M20			X			1										0.002		
MW55-1			X			1										0.002		
MW55-1/MS			X			1										0.002		
M-2			X			1										0.002		

SAMPLED BY:

Eric GABRIELSON K5J

RECEIVED BY:

RECEIVED BY:

REMARKS.

RELINQUISHED BY:

106

RELINQUISHED BY

RELINQUISHED BY:

SAMPLES SHIPPED VIA
AIR FREIGHT FOB

AIR FRC
 8000

DA
59

777

DA

DA

SAI

RECEIVED BY LAB

Lev. 17:11.

RECEIVED BY LAB

RECEIVED BY LAB

AIR BILL NUMBER:

DA

11

DA

DAT

SAMPLES SHIPPED VIA
 AIR FREIGHT FED. EXP. SAMPLED
 OTHER _____

AIR BILL NUMBER



May 19, 1992

RECEIVED

LMG33486.XY

JUN 05 92

BARR
ENGINEERING

Ms. Marti Harding-Smith
Barr Engineering Company
8300 Norman Center Drive
Suite 300
Minneapolis, Minnesota 55437-1026

RE: Analytical Data for 13/49-003JSL31, LMG Laboratory No. 21405

Dear Ms. Harding-Smith:

On April 9, 1992, the CH2M HILL Montgomery Laboratory received five samples with a request for analysis of selected inorganic parameters.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narratives.

Under CH2M HILL policy, your samples will be stored for up to 30 days after reporting. If you have not given us prior instructions for disposal, we will contact you if any samples require disposal as hazardous waste.

CH2M HILL Laboratories appreciate your business and look forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call.

Sincerely,

Wanda L. Hall

Wanda L. Hall
Data Package Supervisor

Enclosures

cc: Mr. Jim Langseth



Engineers
Planners
Economists
Scientists

TABLE OF CONTENTS

CH2M HILL Laboratory No. 21405



EPA QUALIFIERS

INORGANIC ANALYSES

- o C (Concentration) Qualifier -- Enter "B" if the reported value obtained was less than the CRDL but greater than or equal to the IDL. Enter "U" if the value was less than the IDL or was not detected.
- o Q Qualifier -- Entries and their meanings are:
 - E - The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM I if it is an isolated problem.
 - M - Duplicate injection precision was not met (two analyses of the same sample did not agree).
 - N - Spiked sample recovery not within control limits.
 - S - The reported value was determined by the Method of Standard Additions (MSA).
 - W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
 - * - Duplicate analysis not within control limits.
 - + - Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

- o M (Method) Qualifier -- Enter one of the following:
 - P - ICP
 - A - Flame AA
 - F - Furnace AA
 - CV - Manual Cold Vapor AA
 - AV - Automated Cold Vapor AA
 - AS - Semi-Automated Spectrophotometric
 - C - Manual Spectrophotometric
 - T - Titrimetric
 - NR - Analyte was not required by your lab



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CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Laboratory No. 21405

LMG Sample No.	Client ID
21405001	MW5S-1
21405002	MW6S-1
21405003	MW6D-1
21405004	MW5D-1
21405005	M-2

CATIONS DATA PACKAGE

000001



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CASE NARRATIVE
Cations

Batch Number: 21405

Client/Project: BARR ENGINEERING COMPANY

I. Holding Time:

All holding times were met.

II. Analysis:

A. Blanks:

All acceptance criteria were met.

B. Calibration:

All acceptance criteria were met.

C. ICP Interference Check Sample:

All acceptance criteria were met.

D. Spike Sample Analysis:

Postspike recoveries outside criteria are flagged accordingly.

E. Duplicate Sample Analysis:

All acceptance criteria were met.

F. Laboratory Control Sample Analysis:

All acceptance criteria were met.

G. ICP Serial Dilution:

ICP serial dilutions outside criteria are flagged accordingly.

H. Other:

None.

III. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, for other than the conditions detailed above.

SIGNED:

DATE: 19 MAY 92

Kevin A. Sanders
Inorganic Division Manager



Engineers
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Economists
Scientists

CASE NARRATIVE
General Chemistry

Batch Number: 21405

Client/Project: BARR ENGINEERING COMPANY

I. Holding Time: All criteria were met.

II. Analysis:

- | | |
|------------------------|--------------------------|
| A. Calibration: | Acceptance criteria met. |
| B. Blanks: | Acceptance criteria met. |
| C. Matrix Spike: | Acceptance criteria met. |
| D. Duplicate Analysis: | Acceptance criteria met. |
| E. Lab Control Sample: | Acceptance criteria met. |
| F. Other: | None. |

III. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, for other than the conditions detailed above.

SIGNED:

DATE: 19 MAY 92

Kevin A. Sanders
Inorganic Division Manager

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: CH2M HILL MGM Contract: 21405

Lab Code: NA _____ Case No.: 21405 SAS No.: 21405_ SDG No.: 21405_

SOW No.: 3/90

EPA Sample No.

M-2
MW5D-1
MW5S-1
MW5S-1D
MW5S-1S
MW6D-1
MW6S-1

Lab Sample ID

W21405005
W21405004
W21405001
W21405001D
W21405001S
W21405003
W21405002

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

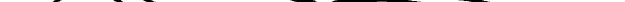
If yes - were raw data generated before application of background corrections ?

Yes/No NO

Comments:

NO UNUSUAL DIFFICULTIES WERE ENCOUNTERED DURING THE ANALYSIS OF THESE SAMPLES.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:  **Name:** Kevin A. Sanders

Date: 13 MAY 82 Title: Inorganic Division Mgr.

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M_HILL_MGM

Contract: 21405

MW5S-1

Lab Code: NA

Case No.: 21405

SAS No.: 21405

SDG No.: 21405

Matrix (soil/water): WATER

Lab Sample ID: W21405001

Level (low/med): LOW

Date Received: 04/09/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	74.8	B		P
7440-36-0	Antimony	16.5	B		P
7440-38-2	Arsenic	243			F
7440-39-3	Barium	129	B	E	P
7440-41-7	Beryllium	0.42	B		P
7440-43-9	Cadmium	2.9	U		P
7440-70-2	Calcium	84100			P
7440-47-3	Chromium	2.1	B		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	13.5	B		P
7439-89-6	Iron	30.9	B	E	P
7439-92-1	Lead	0.92	U		F
7439-95-4	Magnesium	19300			P
7439-96-5	Manganese	207			P
7439-97-6	Mercury	0.00	U		CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	765	B		P
7782-49-2	Selenium	1.7	B	W	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	5030		E	P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	27.2			P
	Cyanide	5.0	B		CA

Color Before: CLEAR

Clarity Before: CLEAR

Texture: N/A

Color After: CLEAR

Clarity After: CLEAR

Artifacts:

Comments:

THE "W" QUALIFIER INDICATES POOR POSTSPIKE RECOVERY. THE "E" QUALIFIER DENOTES A GREATER THAN 10% DIFFERENCE BETWEEN THE NATIVE CONCENTRATION AND SERIAL DILUTION RESULTS.

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M_HILL_MGM _____ Contract: 21405 _____

MW6S-1

Lab Code: NA _____ Case No.: 21405 SAS No.: 21405 SDG No.: 21405

Matrix (soil/water): WATER Lab Sample ID: W21405002

Level (low/med): LOW Date Received: 04/09/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.0	U		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	350			F
7440-39-3	Barium	153	B	E	P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	4.2	B		P
7440-70-2	Calcium	154000			P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	12.6	B		P
7439-89-6	Iron	305		E	P
7439-92-1	Lead	1.1	B		F
7439-95-4	Magnesium	41700			P
7439-96-5	Manganese	491			P
7439-97-6	Mercury	0.00	U		CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	2170	B		P
7782-49-2	Selenium	2.9	B	W	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	8230		E	P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	3.2	B		P
7440-66-6	Zinc	19.1	B		P
	Cyanide	12.2			CA

Color Before: CLEAR Clarity Before: CLEAR Texture: N/A

Color After: CLEAR Clarity After: CLEAR Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW6D-1

Lab Name: CH2M_HILL_MGM

Contract: 21405

Lab Code: NA

Case No.: 21405

SAS No.: 21405

SDG No.: 21405

Matrix (soil/water): WATER

Lab Sample ID: W21405003

Level (low/med): LOW

Date Received: 04/09/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	76.3	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	14600	-		F
7440-39-3	Barium	515	E		P
7440-41-7	Beryllium	0.37	B		P
7440-43-9	Cadmium	20.7	-		P
7440-70-2	Calcium	27800	-		P
7440-47-3	Chromium	30.8	-		P
7440-48-4	Cobalt	12.7	B		P
7440-50-8	Copper	30.6	-		P
7439-89-6	Iron	1200	E		P
7439-92-1	Lead	4.2	W		F
7439-95-4	Magnesium	17500	-		P
7439-96-5	Manganese	646	-		P
7439-97-6	Mercury	0.00	U		CV
7440-02-0	Nickel	34.1	B		P
7440-09-7	Potassium	17800	-		P
7782-49-2	Selenium	12.0	B	W	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	101000	E		P
7440-28-0	Thallium	1.7	U	W	F
7440-62-2	Vanadium	121	-		P
7440-66-6	Zinc	58.2	-		P
	Cyanide	632	-		CA

Color Before: BROWN

Clarity Before: CLOUDY

Texture: N/A

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M_HILL_MGM _____ Contract: 21405 _____

MW5D-1

Lab Code: NA _____ Case No.: 21405 SAS No.: 21405 SDG No.: 21405

Matrix (soil/water): WATER Lab Sample ID: W21405004

Level (low/med): LOW Date Received: 04/09/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34.8	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	9220			F
7440-39-3	Barium	185	B	E	P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	12.7			P
7440-70-2	Calcium	21700			P
7440-47-3	Chromium	7.3	B		P
7440-48-4	Cobalt	4.0	B		P
7440-50-8	Copper	16.8	B		P
7439-89-6	Iron	370		E	P
7439-92-1	Lead	1.3	B	W	F
7439-95-4	Magnesium	18900			P
7439-96-5	Manganese	319			P
7439-97-6	Mercury	0.00	U		CV
7440-02-0	Nickel	12.0	B		P
7440-09-7	Potassium	8960			P
7782-49-2	Selenium	2.4	B	W	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	332000		E	P
7440-28-0	Thallium	1.7	U	W	F
7440-62-2	Vanadium	30.6	B		P
7440-66-6	Zinc	29.0			P
	Cyanide	526			CA

Color Before: YELLOW Clarity Before: CLEAR Texture: N/A

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

M-2

Lab Name: CH2M_HILL_MGM

Contract: 21405

Lab Code: NA

Case No.: 21405

SAS No.: 21405

SDG No.: 21405

Matrix (soil/water): WATER

Lab Sample ID: W21405005

Level (low/med): LOW

Date Received: 04/09/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.7	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	387			F
7440-39-3	Barium	148	B	E	P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	2.9	U		P
7440-70-2	Calcium	142000			P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	12.6	B		P
7439-89-6	Iron	241		E	P
7439-92-1	Lead	3.2			F
7439-95-4	Magnesium	37900			P
7439-96-5	Manganese	442			P
7439-97-6	Mercury	0.00	U		CV
7440-02-0	Nickel	3.8	U		P
7440-09-7	Potassium	2370	B		P
7782-49-2	Selenium	2.0	B	W	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	7920		E	P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	4.1	B		P
7440-66-6	Zinc	27.9			P
	Cyanide	17.1			CA

Color Before: CLEAR

Clarity Before: CLEAR

Texture: N/A

Color After: CLEAR

Clarity After: CLEAR

Artifacts:

Comments:

ERING CO.
103 GLENROY ROAD
MINNEAPOLIS, MN 55439

PROJECT NUMBER
1314191-1C10317151L1311

110:

SAMPLE IDENTIFICATION	COLLECTION		GRAB	COMP.	BLANK	VOLATILE ORGANIC	SEMICVOLATILE ORGANIC	FILTERED METALS	UNFILTERED METALS	GENERAL	CYANIDE	NUTRIENTS	OIL AND GREASE	TOC	SULFIDE	DIOXIN	TYPE AND NUMBER	TOTAL NO. OF CONTAINERS	PROJECT MANAGER
	DATE	TIME																	
M-2	4/8/92		X			2												2	TSC
MW5D-1	1		X			2												3	
MW6D-1	1		X			2												3	
DUPPLICATE																			

SAMPLED BY:

Eric Gabrelson ICSJ

RECEIVED BY:

RECEIVED BY:

REMARKS:

RELINQUISHED BY:

RELINQUISHED BY:

RELINQUISHED BY:

SAMPLES SHIPPED VIA
 AIR FREIGHT FED. EXP. SAMPLER
 OTHER

DATE

4/8/92

TIME

DATE

TIME

DATE

TIME

RECEIVED BY LAB:

Linn, Terri

DATE

DATE

7/9

TIME

RECEIVED BY LAB:

DATE

TIME

RECEIVED BY LAB:

DATE

TIME

AIR BILL NUMBER:

Laboratory No. 21424

-- Volatiles
-- Semivolatiles
-- Pesticides
-- Metals

Five investigative water samples (MW1S1, MW1D1, CFINF1, CFEFF1, and FB) were collected April 9, 1992 and were analyzed for volatiles, semivolatiles, pesticides/PCBS and metals.

Holding Times

Holding times were met on all samples and analyses.

Instrument Tuning

Volatiles

GC/MS Tuning met the established method performance criteria for compounds, concentrations, frequencies and relative ion abundances for the volatiles analyses.

Semivolatiles

GC/MS Tuning met the established method performance criteria for compounds, concentrations, frequencies and relative ion abundances for the semivolatiles analyses.

Pesticides

Instrument performance was acceptable for retention times, retention time windows, and DDT and Endrin degradation for all samples.

Metals

Instrument tuning does not apply to the metals analyses.

Instrument Calibration

Volatiles

Initial calibration percent relative standard deviation (%RSD) and continuing calibration percent difference (%D) values for two volatile parameters were beyond control limits. Control limits for %RSD and %D were ≤ 30 percent and ≤ 25 percent, respectively.

The volatiles analyses initial calibration parameter and associated %RSD value beyond control limits was chloroethane (32.4 percent). The parameter with a %D outlier value was bromomethane (25.6 percent). Neither compound was detected in any of the associated samples, so no data were qualified.

Semivolatiles

Initial calibration percent relative standard deviation (%RSD) values were within control limits. Continuing calibration percent difference (%D) values for several semivolatile parameters were outside the control limits.

The semivolatiles analyses continuing calibration parameters with %D outlier values were 3,3-dichlorobenzidine (25.4 percent), 4,6-dinitro-2-methylphenol (29.4 percent and 40.4 percent), butylbenzylphthalate (28.9 percent), 4-nitrophenol (31.7 percent), pentachlorophenol (32.8 percent and 26.1 percent), 2,4-dinitrophenol (66.7 percent), 4-chlorophenyl-phenyl ether (29.9 percent), 2,2'-oxybis(1-chloropropane) (36.9 percent), di-n-octyl phthalate (32.4 percent), benzo(ghi)perylene (35.0 percent) and the surrogate standard 2,4,6-tribromophenol (29.7 percent, 77.4 percent and 41.9 percent). Positive sample results for these compounds were qualified as estimated and flagged "J".

Pesticides

Pesticide/PCB analyses instrument calibration %RSD and %D values were within the appropriate quality control limits. Resolution check mixture and performance evaluation mixture samples were analyzed at the proper frequency. All retention time and RPD values were within control limits.

Metals

Instrument calibrations were completed the proper number of times using the appropriate number and type of standards and blanks. Initial and continuing calibration percent recovery values were acceptable for all metals analyses.

Blanks

Volatiles

Methylene chloride (5 J $\mu\text{g/L}$), acetone (4 J $\mu\text{g/L}$) and 2-butanone (5 J $\mu\text{g/L}$) were detected in the volatiles method blank. The field blank sample had concentrations of Methylene Chloride (5 J $\mu\text{g/L}$) and Acetone (5 J $\mu\text{g/L}$). Sample results less than five times the blank concentration of 2-butanone or less than ten times the associated blank concentration of either remaining compound were qualified as nondetects and flagged "U."

Semivolatiles

The semivolatiles method blank had concentrations of phenol (3 J $\mu\text{g/L}$) and di-n-butylphthalate (1 J $\mu\text{g/L}$). The field blank had concentrations of phenol (310 $\mu\text{g/L}$), 4-methylphenol (110 $\mu\text{g/L}$) and di-n-butylphthalate (12 J $\mu\text{g/L}$). Sample results less than five times the associated blank concentration of phenol or 4-methylphenol, or less than ten times the associated blank concentration of di-n-butylphthalate were qualified as nondetects and flagged "U."

Pesticides

No compounds were detected in the pesticide/PCB method blank.

Metals

Total metals analyses calibration, preparation and field blanks had concentrations of aluminum, antimony, arsenic, barium, beryllium, calcium, copper, iron, magnesium, manganese, nickel, selenium, sodium, vanadium, and zinc. These concentrations were greater than the instrument detection limit (IDL) but less than the contract required detection limit (CRDL). Sample results for these compounds less than five times the blank concentration were qualified as nondetects and flagged "U."

Surrogate Recovery

Volatiles

Recoveries for the volatiles system monitoring compounds were within the established quality control limits.

Semivolatiles

Semivolatiles surrogate recoveries were not determined for Samples CFINF1, CFINF1DL, MW1D1, MW1D1DL, or MW1S1DL due to the large dilutions required for analysis. No data were qualified.

Pesticides

Difficulties were encountered on the pesticide/PCB surrogate compounds percent recoveries for tetrachloro-m-xylene on sample FB and decachlorobiphenyl for sample CFINF1. All results for these samples were qualified as estimated and flagged "J."

Metals

Total metals analyses ICP interference check sample recoveries and laboratory control sample results were within the established quality control limits.

Matrix Spike/Matrix Spike Duplicate

Volatiles

Volatiles analyses matrix spike/matrix spike duplicate samples percent recovery and RPD values were within the appropriate control limits for all spike compounds.

Semivolatiles

Semivolatiles analyses matrix spike/matrix spike duplicate samples had recoveries outside control limits for phenol (10 percent), 1,2,4-trichlorobenzene (34 percent) and acenaphthene (35 percent). RPD outliers were phenol (163 percent) and acenaphthene (33 percent). Since the matrix spike duplicate sample recoveries for all spike compounds met the established performance criteria, no data were qualified.

Pesticides

Pesticide/PCB matrix spike/matrix spike duplicate samples had RPD values beyond control limits for gamma-BHC (-22 percent) and heptachlor (-23 percent). These compounds were qualified as estimated and flagged 'J' in the associated samples.

Metals

Metals analyses quality control samples included a duplicate sample, a spike sample, post digestion spike samples, and an ICP serial dilution sample.

Duplicate samples RPD values for chromium (200.0 percent), copper (92.1 percent) and sodium (200.0 percent) were beyond the control limits. Investigative sample results for these compounds were qualified as estimated and flagged "J."

Recoveries for the spike sample were within control limits for all spike compounds except selenium (62.5 percent). Associated sample results for selenium were qualified as estimated and flagged "J."

Post digestion spike samples analyses were not required.

ICP serial dilution samples analyses were not required.

Field Duplicates

Field duplicates are summarized in Tables 2.3-6 through 2.3-11.

Overall Assessment

The data are considered acceptable with the recommended qualifiers.



May 19, 1992

LMG33486.XY

RECEIVED

JN 05 92

BARR
ENGINEERING

Ms. Marti Harding-Smith
Barr Engineering Company
8300 Norman Center Drive
Suite 300
Minneapolis, Minnesota 55437-1026

RE: Analytical Data for 13/49-003JSL31, LMG Laboratory No. 21424

Dear Ms. Harding-Smith:

On April 10, 1992, the CH2M HILL Montgomery Laboratory received five samples with a request for analysis of selected inorganic parameters.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narratives.

Under CH2M HILL policy, your samples will be stored for up to 30 days after reporting. If you have not given us prior instructions for disposal, we will contact you if any samples require disposal as hazardous waste.

CH2M HILL Laboratories appreciate your business and look forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call.

Sincerely,

Wanda L. Hall

Wanda L. Hall
Data Package Supervisor

Enclosures

cc: Mr. Jim Langseth



Engineers
Planners
Economists
Scientists

TABLE OF CONTENTS

CH2M HILL Laboratory No. 21424

Page No.	
List of Inorganic EPA-defined Qualifiers	i
Sample Cross-Reference	ii
 CATIONS DATA PACKAGE	
Case Narrative	1
Cover Page	4
Analytical Results of Field Samples	
MW1S-1 (LMG #21424001)	5
CP-INF-1 (LMG #21424002)	6
MW1D-1 (LMG #21424003)	7
CP-EFF-1 (LMG #21424004)	8
FB-3 (LMG #21424005)	9
Quality Control Data	
Initial & Continuing Calibration Verification	10-18
CRDL Standard for AA	19-20
Blank Data	21-27
ICP Interference Check Sample	28
Spike Sample Recovery	29
Duplicate Sample Data	30
Laboratory Control Sample	31
Standard Addition Results	32
ICP Serial Dilution	33
Instrument Detection Limits	34-36
ICP Interelement Correction Factors	37-40
ICP Linear Ranges	41
Preparation Log	42-45
Analysis Run Log	46-78
Raw Data	
ICP Data	79-138
Arsenic Data (GFAA)	139-239
Lead Data (GFAA)	240-324
Selenium Data (GFAA)	325-427
Thallium Data (GFAA)	428-456
Mercury Data	457-459
Cyanide Data	460-474
Digestion/Distillation Logs	475-479
 Copy of Chain-of-custody	
	480-482



EPA QUALIFIERS

INORGANIC ANALYSES

- o C (Concentration) Qualifier -- Enter "B" if the reported value obtained was less than the CRDL but greater than or equal to the IDL. Enter "U" if the value was less than the IDL or was not detected.
- o Q Qualifier -- Entries and their meanings are:
 - E - The reported value is estimated because of interference. An explanatory comment must be included under "Comments" on the Cover Page if the problem applies to all samples in this data package or on the individual FORM I if it is an isolated problem.
 - M - Duplicate injection precision was not met (two analyses of the same sample did not agree).
 - N - Spiked sample recovery not within control limits.
 - S - The reported value was determined by the Method of Standard Additions (MSA).
 - W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
 - * - Duplicate analysis not within control limits.
 - + - Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

- o M (Method) Qualifier -- Enter one of the following:
 - P - ICP
 - A - Flame AA
 - F - Furnace AA
 - CV - Manual Cold Vapor AA
 - AV - Automated Cold Vapor AA
 - AS - Semi-Automated Spectrophotometric
 - C - Manual Spectrophotometric
 - T - Titrimetric
 - NR - Analyte was not required by your lab



CLIENT SAMPLE CROSS-REFERENCE

CH2M HILL Laboratory No. 21424

LMG Sample No.	Client ID
21424001	MW1S-1
21424002	CF-INF 1
21424003	MW1D-1
21424004	CF-EFF-1
21424005	FB-3

CATIONS DATA PACKAGE

000001



Engineers
Planners
Economists
Scientists

CASE NARRATIVE

Cations

Batch Number: 21424

Client/Project: BARR ENGINEERING COMPANY

I. Holding Time:

All holding times were met.

II. Analysis:

A. Blanks:

All acceptance criteria were met.

B. Calibration:

All acceptance criteria were met.

C. ICP Interference Check Sample:

All acceptance criteria were met.

D. Spike Sample Analysis:

Prespike and postspike recoveries outside criteria are flagged accordingly.

E. Duplicate Sample Analysis:

All acceptance criteria were met.

F. Laboratory Control Sample Analysis:

All acceptance criteria were met.

G. ICP Serial Dilution:

All acceptance criteria were met.

H. Other:

The mercury QC data for this package is included in the 21405 data package.

The selenium results for samples 21424002 and 21424003 were determined by the Method of Standard Additions (MSA) and are therefore flagged with the "S" qualifier.

III. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, for other than the conditions detailed above.

SIGNED:

DATE: 19 MAY 92

Kevin A. Sanders
Inorganic Division Manager



CASE NARRATIVE
General Chemistry

Batch Number: 21424

Client/Project: BARR ENGINEERING COMPANY

I. Holding Time: All criteria were met.

II. Analysis:

- | | |
|------------------------|--|
| A. Calibration: | Acceptance criteria met. |
| B. Blanks: | Acceptance criteria met. |
| C. Matrix Spike: | Acceptance criteria met. |
| D. Duplicate Analysis: | Acceptance criteria met. |
| E. Lab Control Sample: | Acceptance criteria met. |
| F. Other: | The cyanide QC data for this package is found in data package 21405. |

III. I certify that this data package is in compliance with the terms and conditions agreed to by the client and CH2M HILL, both technically and for completeness, for other than the conditions detailed above.

SIGNED: 

DATE: 19 MAY 92

Kevin A. Sanders
Inorganic Division Manager

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: CH2M HILL MGM _____ Contract: 21424 _____

Lab Code: NA Case No.: 21424 SAS No.: 21424 SDG No.: 21424

SOW No.: 3/90

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments:

THE MERCURY AND CYANIDE QC DATA FOR THIS PACKAGE IS FOUND IN DATA
PACKAGE 21405.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: **Name:** **Kevin A. Sanders**

Date: 13 MAY 92 Title: Inorganic Division Mgr.

COVER PAGE - IN

ILMO -

000004

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW1S-1

Lab Name: CH2M_HILL_MGM

Contract: 21424

Lab Code: NA

Case No.: 21424

SAS No.: 21424

SDG No.: 21424

Matrix (soil/water): WATER

Lab Sample ID: W21424001

Level (low/med): LOW

Date Received: 04/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	69.4	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	120			F
7440-39-3	Barium	79.8	B		P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	2.9	U		P
7440-70-2	Calcium	85200			P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	4.7	B		P
7439-89-6	Iron	167			P
7439-92-1	Lead	0.92	U		F
7439-95-4	Magnesium	32700			P
7439-96-5	Manganese	521			P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	13.4	B		P
7440-09-7	Potassium	3840	B		P
7782-49-2	Selenium	1.6	B	N	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	30400			P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	6.1	B		P
7440-66-6	Zinc	16.8	B		P
	Cyanide	103			CA

Color Before: CLEAR

Clarity Before: CLEAR

Texture: N/A

Color After: CLEAR

Clarity After: CLEAR

Artifacts:

Comments:

THE "N" QUALIFIER INDICATES POOR PRESPIKE RECOVERY

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M_HILL_MGM

Contract: 21424

CF-INF-1

Lab Code: NA

Case No.: 21424 SAS No.: 21424 SDG No.: 21424

Matrix (soil/water): WATER

Lab Sample ID: W21424002

Level (low/med): LOW

Date Received: 04/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	72.3	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	9160	-		F
7440-39-3	Barium	213			P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	8.7			P
7440-70-2	Calcium	52500	-		P
7440-47-3	Chromium	12.3	-		P
7440-48-4	Cobalt	6.2	B		P
7440-50-8	Copper	205	-		P
7439-89-6	Iron	587	-		P
7439-92-1	Lead	4.5	-		F
7439-95-4	Magnesium	20100	-		P
7439-96-5	Manganese	326	-		P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	33.5	B		P
7440-09-7	Potassium	10900	-		P
7782-49-2	Selenium	24.6	-	SN	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	115000	-		P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	64.1	-		P
7440-66-6	Zinc	113	-		P
	Cyanide	170	-		CA

Color Before: BROWN

Clarity Before: CLEAR

Texture: N/A

Color After: YELLOW

Clarity After: CLEAR

Artifacts:

Comments:

THE "W" QUALIFIER DENOTES POOR POSTSPIKE RECOVERY. THE "S" QUALIFIER INDICATES QUANTITATION BY MSA.

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW1D-1

Lab Name: CH2M_HILL_MGM

Contract: 21424

Lab Code: NA

Case No.: 21424

SAS No.: 21424

SDG No.: 21424

Matrix (soil/water): WATER

Lab Sample ID: W21424003

Level (low/med): LOW

Date Received: 04/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	79.7	B		P
7440-36-0	Antimony	13.3	B		P
7440-38-2	Arsenic	4020			F
7440-39-3	Barium	82.2	B		P
7440-41-7	Beryllium	0.68	B		P
7440-43-9	Cadmium	6.2			P
7440-70-2	Calcium	9750			P
7440-47-3	Chromium	39.6			P
7440-48-4	Cobalt	3.7	B		P
7440-50-8	Copper	69.9			P
7439-89-6	Iron	418			P
7439-92-1	Lead	15.7			F
7439-95-4	Magnesium	5470			P
7439-96-5	Manganese	52.0			P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	41.1			P
7440-09-7	Potassium	4490	B		P
7782-49-2	Selenium	46.0		SN	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	15600			P
7440-28-0	Thallium	1.7	U	W	F
7440-62-2	Vanadium	297			P
7440-66-6	Zinc	61.2			P
	Cyanide	448			CA

Color Before: BROWN

Clarity Before: CLEAR

Texture: N/A

Color After: ORANGE

Clarity After: CLEAR

Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M_HILL_MGM

Contract: 21424

CF-EFF-1

Lab Code: NA

Case No.: 21424 SAS No.: 21424 SDG No.: 21424

Matrix (soil/water): WATER

Lab Sample ID: W21424004

Level (low/med): LOW

Date Received: 04/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	49.3	B		P
7440-36-0	Antimony	45.3	B		P
7440-38-2	Arsenic	18200			F
7440-39-3	Barium	297	-		P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	16.2			P
7440-70-2	Calcium	33300			P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	91.2			P
7439-89-6	Iron	341	-		P
7439-92-1	Lead	3.8	-	W	F
7439-95-4	Magnesium	28500			P
7439-96-5	Manganese	117			P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	24.4	B		P
7440-09-7	Potassium	18700			P
7782-49-2	Selenium	6.0	U	WN	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	207000			P
7440-28-0	Thallium	1.7	U	W	F
7440-62-2	Vanadium	18.2	B		P
7440-66-6	Zinc	33.9	-		P
	Cyanide	378	-		CA

Color Before: YELLOW

Clarity Before: CLEAR

Texture: N/A

Color After: CLEAR

Clarity After: CLEAR

Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FB-3

Lab Name: CH2M_HILL_MGM

Contract: 21424

Lab Code: NA

Case No.: 21424

SAS No.: 21424

SDG No.: 21424

Matrix (soil/water): WATER

Lab Sample ID: W21424005

Level (low/med): LOW

Date Received: 04/10/92

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.1	B		P
7440-36-0	Antimony	10.9	U		P
7440-38-2	Arsenic	0.95	U	W	F
7440-39-3	Barium	1.6	B		P
7440-41-7	Beryllium	0.19	U		P
7440-43-9	Cadmium	2.9	U		P
7440-70-2	Calcium	172	B		P
7440-47-3	Chromium	2.1	U		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	6.1	B		P
7439-89-6	Iron	17.4	B		P
7439-92-1	Lead	0.92	U		F
7439-95-4	Magnesium	21.3	U		P
7439-96-5	Manganese	0.62	B		P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	6.0	B		P
7440-09-7	Potassium	710	U		P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	1220	B		P
7440-28-0	Thallium	1.7	U		F
7440-62-2	Vanadium	1.7	U		P
7440-66-6	Zinc	6.2	B		P
	Cyanide	1.8	U		CA

Color Before: CLEAR

Clarity Before: CLEAR

Texture: N/A

Color After: CLEAR

Clarity After: CLEAR

Artifacts:

Comments:

CHAIN OF CUSTODY
BARR ENGINEERING CO.
.803 GLENROY ROAD
MINNEAPOLIS, MN 55439

PROJECT NUMBER	1311419-1003551431
NO:	

| NO:

SAMPLED BY:
Eric L. Anderson P.S.

RELINQUISHED BY:

DATE
4/2/12

RECEIVED BY LAI

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE

RECEIVED BY LAW

DATE TIME

RECEIVED BY

RELINQUISHED BY:

DATE

RECEIVED BY LAW

DATE TIME

REMARKS

SAMPLES SHIPPED VIA
 AIR FREIGHT FED. EXP. SAMPLES
 OTHER - _____

AIR BILL NUMBER

DISTRIBUTOR

WHITE-ORIGINAL ACCOMPANIES SHIPMENT TO LAR. RETURNS TO

IR WITH DESIR TO VELI AND AN OVEN



June 4, 1992

LMG33486.XY

RECEIVED

JUN 05 92

BARR
ENGINEERING

Ms. Marti Harding-Smith
Barr Engineering Company
8300 Norman Center Drive
Suite 300
Minneapolis, Minnesota 55437-1026

RE: Analytical Data for 13/49-003JSL31, LMG Laboratory No. 21424

Dear Ms. Harding-Smith:

On April 10, 1992, the CH2M HILL Montgomery Laboratory received five samples with a request for analysis of selected organic parameters.

The analytical results and associated quality control data are enclosed. Any unusual difficulties encountered during the analysis of your samples are discussed in the case narratives.

Under CH2M HILL policy, your samples will be stored for up to 30 days after reporting. If you have not given us prior instructions for disposal, we will contact you if any samples require disposal as hazardous waste.

CH2M HILL Laboratories appreciate your business and look forward to serving your analytical needs again. If you should have any questions concerning the data, or if you need additional information, please call.

Sincerely,

Wanda L. Hall

Wanda L. Hall
Data Package Supervisor

Enclosures

cc: Mr. Jim Langseth



Engineers
Planners
Economists
Scientists

TABLE OF CONTENTS

CH2M HILL Laboratory No. 21424



TABLE OF CONTENTS (cont.)

CH2M HILL Laboratory No. 21424



Engineers
Planners
Economists
Scientists

EPA - DEFINED QUALIFIERS

ORGANICS

Definitions for the EPA-defined qualifiers:

- U -- Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the quantitation limit for that compound. The detection limit can vary from sample to sample depending on dilution factors or percent moisture adjustment when indicated.
- J -- Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound below the stated quantitation limit. The "J" qualifier is not used with pesticide results.
- C -- This flag applies to pesticide results only. The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.
- B -- This flag is used when the analyte is found in the associated blank as well as the sample. This notation indicates possible blank contamination and suggests the data user evaluate these compounds and their amounts carefully.
- E -- This flag applies to GC/MS only. The "E" qualifier indicates a compound may be above or below the linear range of the instrument. If the particular compound level is deemed above the linear calibration range, then the sample should be reanalyzed at an appropriate dilution. Therefore, the "E" qualified amount is an estimated concentration. The results for the dilution will be reported on a separate Form I and will be flagged with a "D" if the dilution brings the concentration within proper calibration.
- D -- This flag identifies compounds which have been run at a dilution to bring the concentration of that compound within the linear range of the instrument. "D" qualifiers are only used for samples that have been run initially with results above acceptable ranges. For secondary dilutions the "DL" suffix is appended to the sample number on the Form I.
- A -- Indicates the Tentatively Identified Compound (TIC) is a suspected aldol-condensation product.
- X -- Indicates the compound concentration has been manually modified or the EPA qualifier has been manually modified or added.
- JX -- The compound was detected and quantitated below the Contract Required Quantitation Limit.



CLIENT SAMPLE ID QUALIFIERS

LEVEL 3

The qualifiers that GC/MS and GC use with the client sample ID are defined below:

- DL -- Dilution Run
- R -- Rerun (may be followed by a digit to indicate multiple reruns)
- RD -- Diluted Rerun
- RX -- Re-extraction Analysis
- MS -- Matrix Spike (may be followed by a digit to indicate multiple matrix spikes within a sample set)
- MSD -- Matrix Spike Duplicate (may be followed by a digit to indicate multiple matrix spike duplicates within a sample set)
- VBLK -- Volatile Blank (will be followed by a "W" for waters, "S" for soils run at a low level, or "SM" for soils run at a medium level -- these letters may be followed by a digit to indicate multiple blanks of that type).
- SBLK -- Semivolatile Blank (will be followed by a "W" for waters, "S" for soils run at a low level, or "SM" for soils run at a medium level -- these letters may be followed by a digit to indicate multiple blanks of that type).
- PBLK -- Pesticide/PCB Blank (may be followed by digits to indicate multiple blanks)

These qualifiers allow GC/MS and GC to have unique client sample ID's so that the client can get more accurate information from the data reported.



CLIENT SAMPLE CROSS-REFERENCE

CHEM HILL Laboratory No. 21424

LMG Sample No.	Client ID
21424001	MW1S-1
21424002	CF-INF 1
21424003	MW1D-1
21424004	CF-EFF-1
21424005	FB-3



INTERNAL STANDARD AND SURROGATE COMPOUNDS

VOLATILE ANALYSIS

The internal standards on the GC/MS volatile chromatograms are designated as IS1, IS2, and IS3. The surrogate standards are labelled as SS1, SS2, and SS3. The compounds corresponding to these labels are listed below.

<u>LABEL</u>	<u>INTERNAL STANDARD COMPOUND</u>
IS1	BROMOCHLOROMETHANE
IS2	1,4-DIFLUOROBENZENE
IS3	D5-CHLOROBENZENE

<u>LABEL</u>	<u>SURROGATE STANDARD COMPOUND</u>
SS1	D4-1,2-DICHLOROETHANE
SS2	D8-TOLUENE
SS3	1,4-BROMOFLUOROBENZENE



INTERNAL STANDARD AND SURROGATE COMPOUNDS

SEMITVOLATILE ANALYSIS

The internal standards on the GC/MS semivolatile chromatograms are designated as IS1, IS2, IS3, IS4, IS5, and IS6. The surrogate standards are labelled as SS1, SS2, SS3, SS4, SS5, and SS6. The compounds corresponding to these labels are listed below.

<u>LABEL</u>	<u>INTERNAL STANDARD COMPOUND</u>
IS1	D4-1,4-DICHLOROBENZENE
IS2	D8-NAPHTHALENE
IS3	D10-ACENAPHTHENE
IS4	D10-PHENANTHRENE
IS5	D12-CHRYSENE
IS6	D12-PERYLENE

<u>LABEL</u>	<u>SURROGATE STANDARD COMPOUND</u>
SS1	2-FLUOROPHENOL
SS2	D5-PHENOL
SS3	D5-NITROBENZENE
SS4	2-FLUOROBIPHENYL
SS5	2,4,6-TRIBROMOPHENOL
SS6	D14-TERPHENYL

SAMPLE DATA SUMMARY PACKAGE

000001



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CASE NARRATIVE FOR VOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21424001	MW1S-1	WATER	04/09/92	NA	04/20/92
21424002	CF-INF-1	WATER	04/09/92	NA	04/20/92
21424003	MW1D-1	WATER	04/09/92	NA	04/20/92
21424003DL	MW1D-1 DL	WATER	04/09/92	NA	04/20/92
21424004	CF-EFF-1	WATER	04/09/92	NA	04/20/92
21424005	FB-3	WATER	04/09/92	NA	04/20/92
X04202B1	VBLKW	WATER	NA	NA	04/20/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.

B. Extraction

Exceptions : Not applicable.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical
Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.

Due to saturation of the quantitation ion (mz 78), the quantitated amount of Benzene present in sample 21424003 (MWID-1) was determined by using a secondary ion (mz 77) quantitation. A chromatogram demonstrating the saturation has been included with the sample as well as the calculation used to determine the amount of Benzene present in the sample. The sample was diluted and reanalyzed. The results of both analyses have been reported.

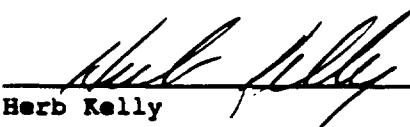
No other exceptions were encountered.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate
Recoveries : All samples met acceptable QC limits.
- C. Matrix Spike
Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division


Date 6/4/97



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METHYLENE CHLORIDE/ACETONE SURFACE

Due to the level of target compounds, the following samples required large dilutions for analysis. As required by the Statement of Work, these dilution factors have been applied, without background subtraction, to all detected compounds, particularly methylene chloride and acetone. As methylene chloride and acetone are common laboratory contaminants, the following table is being provided to present a more accurate perspective of these compounds. Included in the table is 1) the amount of methylene chloride and acetone, detected at the instrument, prior to multiplication by the dilution factor; and 2) the amount of methylene chloride and acetone for that particular sample's laboratory method blank.



CASE NARRATIVE FOR SEMIVOLATILE MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21424001	MW1S-1	WATER	04/09/92	04/13/92	04/21/92
21424001DL	MW1S-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424002	CF-INF-1	WATER	04/09/92	04/13/92	04/21/92
21424002DL	CF-INF-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424003	MW1D-1	WATER	04/09/92	04/13/92	04/22/92
21424003DL	MW1D-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424004	CF-EFF-1	WATER	04/09/92	04/13/92	04/22/92
21424005	FB-3	WATER	04/09/92	04/13/92	04/22/92
21424005RX	FB-3 RX	WATER	04/09/92	05/07/92	05/08/92
C04132B1	SBLKW	WATER	NA	04/13/92	04/20/92
C05072B1	SBLKW 2	WATER	NA	05/07/92	05/08/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

Due to a laboratory oversight, the surrogate standard was added twice to these samples during extraction. This factor was taken into account when determining surrogate percent recoveries.

No other exceptions were encountered.



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SEMOVOLATILE
LAB NO. 21424
PAGE 2

II. EXTRACTION

- A. Holding Times: All original extractions were within holding time. Sample 21424005 (FB-3) was re-extracted outside of holding time. The results of both analyses have been reported.
- B. Extraction Exceptions : No exceptions were encountered.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : The original analysis of samples 21424001 (MW1S-1), 21424002 (CP-INF-1), and 21424003 (MW1D-1), showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

The original analysis of sample 21424005 (FB-3) showed 310 ug/L of Phenol. Since this is a field blank, the sample was re-extracted and re-analyzed with no Phenol detected. Therefore, the Phenol detected in the original extraction may possibly be due to laboratory contamination. Since the re-extraction was performed outside of holding time, the results of both analyses have been reported. The analysis of this re-extraction showed no recovery of one internal standard. Since this analysis was performed to investigate the Phenol contamination only, the laboratory took no further action.

No other exceptions were encountered.



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SEMOVOLATILE
LAB NO. 21424
PAGE 3

IV. QUALITY CONTROL

A. Method Blank : All associated method blanks met acceptable QC criteria.

B. Surrogate Recoveries : Samples 21424001DL (MW1D-1 DL), 21424002DL (CF-INF-1 DL), 21424003 (MW1D-1), and 21424003DL (MW1D-1 DL) required large dilutions for analysis. Therefore, surrogate recoveries could not be determined for these samples.

All other samples met acceptable QC limits. According to CLP protocol, one surrogate per fraction may be outside of QC limits as long as the recovery is ten percent or greater.

C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

Date



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CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

LAB <u>ID</u>	CLIENT <u>ID</u>	SAMPLE <u>MATRIX</u>	DATE <u>SAMPLED</u>	EXTRACTION <u>DATE</u>	ANALYSIS <u>DATE</u>
21424001	MW1S-1	WATER	04/09/92	04/13/92	05/06/92
21424002	CF-INF-1	WATER	04/09/92	04/13/92	05/06/92
21424003	MW1D-1	WATER	04/09/92	04/13/92	05/06/92
21424004	CF-EFF-1	WATER	04/09/92	04/13/92	05/06/92
21424005	FB-3	WATER	04/09/92	04/13/92	05/06/92
W04132B3	PBLK13	WATER	NA	04/13/92	05/06/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.

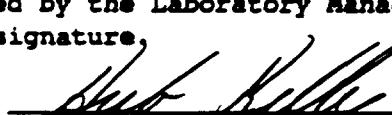
Report limits were raised for samples 21424001 (MWIS-1), 21424002 (CF-INF-1), and 21424003 (MWID-1) because of chemical interferences not removed by our cleanup procedures.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : The percent recovery for Decachlorobiphenyl for sample 21424002 (CF-INF-1) was outside advisory QC limits on both primary and confirmation analyses. Also, the percent recoveries for Tetrachloro-m-xylene and Decachlorobiphenyl for sample 21424005 (FB-3) were outside advisory QC limits on both primary and confirmation analyses. Since these limits are advisory limits only, the laboratory took no further action. All other samples met advisory QC limits.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.
- D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature,

 
Herb Kelly Date

Manager, Organic Division
2567 Fairlane Drive, P O Box 230548
Montgomery, Alabama 36116

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW1S-1

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21424001Sample wt/vol: 5.0 (g/mL) MLLab File ID: CIV0021546Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	BJ
67-64-1-----	Acetone	4	BJ
75-15-0-----	Carbon Disulfide	3	J
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	23	
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	7	J
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	11	
100-42-5-----	Styrene	3	J
1330-20-7-----	Xylene (total)	39	

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

MW1S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424001

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021546

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 9

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BENZENE, ETHYL, METHYL- ISOM	20.99	27	J
2.	BENZENE, TRIMETHYL- ISOMER	21.09	16	J
3.	BENZENE, TRIMETHYL- ISOMER	21.79	42	J
4.	BENZENE, TRIMETHYL- ISOMER	22.64	19	J
5.	BENZENE, ETHENYL, METHYL- IS	23.22	150	J
6.	BENZENE, ETHYNYL, METHYL- IS	23.57	130	J
7.	1H-INDENE, 2,3-DIHYDRO, METH	24.17	25	J
8.	2-PROPENAL, PHENYL- ISOMER	24.64	16	J
9.	2-PROPENAL, PHENYL- ISOMER	24.72	30	J

LA
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

CP-INF-1

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21424002Sample wt/vol: 5.0 (g/mL) MLLab File ID: C2VO021549Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 2.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	20	U
74-83-9-----	Bromomethane	20	U
75-01-4-----	Vinyl Chloride	20	U
75-00-3-----	Chloroethane	20	U
75-09-2-----	Methylene Chloride	12	BJ
67-64-1-----	Acetone	250	B
75-15-0-----	Carbon Disulfide	20	U
75-35-4-----	1,1-Dichloroethene	20	U
75-34-3-----	1,1-Dichloroethane	28	
540-59-0-----	1,2-Dichloroethene (total)	20	U
67-66-3-----	Chloroform	20	U
107-06-2-----	1,2-Dichloroethane	20	U
78-93-3-----	2-Butanone	80	B
71-55-6-----	1,1,1-Trichloroethane	2	J
56-23-5-----	Carbon Tetrachloride	20	U
75-27-4-----	Bromodichloromethane	20	U
78-87-5-----	1,2-Dichloropropane	20	U
10061-01-5-----	cis-1,3-Dichloropropene	20	U
79-01-6-----	Trichloroethene	20	U
124-48-1-----	Dibromochloromethane	20	U
79-00-5-----	1,1,2-Trichloroethane	20	U
71-43-2-----	Benzene	220	
10061-02-6-----	trans-1,3-Dichloropropene	20	U
75-25-2-----	Bromoform	20	U
591-78-6-----	2-Hexanone	20	U
108-10-1-----	4-Methyl-2-Pentanone	20	U
127-18-4-----	Tetrachloroethene	20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	20	U
108-88-3-----	Toluene	45	
108-90-7-----	Chlorobenzene	20	U
100-41-4-----	Ethylbenzene	8	J
100-42-5-----	Styrene	2	J
1330-20-7-----	Xylene (total)	21	

14

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

CF-INF-1

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424002

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C2V0021549

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 2.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 3

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 496-11-7	1H-INDENE, 2,3-DIHYDRO-	23.24	21	J
2.	BENZENE, 1-ETHYNYL, METHYL-	23.60	49	J
3. 593-75-9	METHANE, ISOCYANO-	8.67	40	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1

Lab Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424003Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1V0021548Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	40	U
74-83-9-----	Bromomethane	40	U
75-01-4-----	Vinyl Chloride	40	U
75-00-3-----	Chloroethane	40	U
75-09-2-----	Methylene Chloride	25	BJ
67-64-1-----	Acetone	360	B
75-15-0-----	Carbon Disulfide	7	J
75-35-4-----	1,1-Dichloroethene	40	U
75-34-3-----	1,1-Dichloroethane	40	U
540-59-0-----	1,2-Dichloroethene (total)	40	U
67-66-3-----	Chloroform	40	U
107-06-2-----	1,2-Dichloroethane	40	U
78-93-3-----	2-Butanone	50	B
71-55-6-----	1,1,1-Trichloroethane	40	U
56-23-5-----	Carbon Tetrachloride	40	U
75-27-4-----	Bromodichloromethane	40	U
78-87-5-----	1,2-Dichloropropane	40	U
10061-01-5-----	cis-1,3-Dichloropropene	40	U
79-01-6-----	Trichloroethene	40	U
124-48-1-----	Dibromochloromethane	40	U
79-00-5-----	1,1,2-Trichloroethane	40	U
71-43-2-----	Benzene	760	
10061-02-6-----	trans-1,3-Dichloropropene	40	U
75-25-2-----	Bromoform	40	U
591-78-6-----	2-Hexanone	40	U
108-10-1-----	4-Methyl-2-Pentanone	40	U
127-18-4-----	Tetrachloroethene	40	U
79-34-5-----	1,1,2,2-Tetrachloroethane	40	U
108-88-3-----	Toluene	270	
108-90-7-----	Chlorobenzene	40	U
100-41-4-----	Ethylbenzene	10	J
100-42-5-----	Styrene	16	J
1330-20-7-----	Xylene (total)	81	

**VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424003

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021548

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 5

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	PYRIDINE, METHYL- ISOMER	17.80	30	J
2. 89-51-0	BENZENEACETIC ACID, 2-CARBOX	22.49	64	J
3. 496-11-7	1H-INDENE, 2,3-DIHYDRO-	23.22	39	J
4. 766-97-2	BENZENE, 1-ETHYNYL-4-METHYL-	23.59	500	J
5.	NOT IDENTIFIED	8.59	86	J

LA
VOLATILE ORGANICS ANALYSIS DATA SHEET

LIA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1_DL

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424003DLSample wt/vol: 5.0 (g/mL) MLLab File ID: C2VO021551Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	100	U
74-83-9-----	Bromomethane	100	U
75-01-4-----	Vinyl Chloride	100	U
75-00-3-----	Chloroethane	100	U
75-09-2-----	Methylene Chloride	80	BDJ
67-64-1-----	Acetone	410	BD
75-15-0-----	Carbon Disulfide	100	U
75-35-4-----	1,1-Dichloroethene	100	U
75-34-3-----	1,1-Dichloroethane	100	U
540-59-0-----	1,2-Dichloroethene (total)	100	U
67-66-3-----	Chloroform	100	U
107-06-2-----	1,2-Dichloroethane	100	U
78-93-3-----	2-Butanone	81	BDJ
71-55-6-----	1,1,1-Trichloroethane	100	U
56-23-5-----	Carbon Tetrachloride	100	U
75-27-4-----	Bromodichloromethane	100	U
78-87-5-----	1,2-Dichloropropane	100	U
10061-01-5-----	cis-1,3-Dichloropropene	100	U
79-01-6-----	Trichloroethene	100	U
124-48-1-----	Dibromochloromethane	100	U
79-00-5-----	1,1,2-Trichloroethane	100	U
71-43-2-----	Benzene	700	D
10061-02-6-----	trans-1,3-Dichloropropene	100	U
75-25-2-----	Bromoform	100	U
591-78-6-----	2-Hexanone	100	U
108-10-1-----	4-Methyl-2-Pentanone	100	U
127-18-4-----	Tetrachloroethene	100	U
79-34-5-----	1,1,2,2-Tetrachloroethane	100	U
108-88-3-----	Toluene	270	D
108-90-7-----	Chlorobenzene	100	U
100-41-4-----	Ethylbenzene	100	U
100-42-5-----	Styrene	12	DJ
1330-20-7-----	Xylene (total)	77	DJ

1/2

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1_DL

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424003DL

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C2VO021551

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 89-51-0	BENZENEACETIC ACID, 2-CARBOX	22.47	63	J
2.	BENZENE, 1-ETHYNYL, METHYL-	23.59	460	J
3.	NOT IDENTIFIED	8.54	78	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

CF-EFF-1

Lab Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424004Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021545Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

<u>74-87-3-----Chloromethane</u>	<u>10</u>	<u>U</u>
<u>74-83-9-----Bromomethane</u>	<u>10</u>	<u>U</u>
<u>75-01-4-----Vinyl Chloride</u>	<u>10</u>	<u>U</u>
<u>75-00-3-----Chloroethane</u>	<u>10</u>	<u>U</u>
<u>75-09-2-----Methylene Chloride</u>	<u>4</u>	<u>BJ</u>
<u>67-64-1-----Acetone</u>	<u>5</u>	<u>BJ</u>
<u>75-15-0-----Carbon Disulfide</u>	<u>10</u>	<u>U</u>
<u>75-35-4-----1,1-Dichloroethene</u>	<u>10</u>	<u>U</u>
<u>75-34-3-----1,1-Dichloroethane</u>	<u>10</u>	<u>U</u>
<u>540-59-0-----1,2-Dichloroethene (total)</u>	<u>10</u>	<u>U</u>
<u>67-66-3-----Chloroform</u>	<u>10</u>	<u>U</u>
<u>107-06-2-----1,2-Dichloroethane</u>	<u>10</u>	<u>U</u>
<u>78-93-3-----2-Butanone</u>	<u>8</u>	<u>BJ</u>
<u>71-55-6-----1,1,1-Trichloroethane</u>	<u>10</u>	<u>U</u>
<u>56-23-5-----Carbon Tetrachloride</u>	<u>10</u>	<u>U</u>
<u>75-27-4-----Bromodichloromethane</u>	<u>10</u>	<u>U</u>
<u>78-87-5-----1,2-Dichloropropane</u>	<u>10</u>	<u>U</u>
<u>10061-01-5-----cis-1,3-Dichloropropene</u>	<u>10</u>	<u>U</u>
<u>79-01-6-----Trichloroethene</u>	<u>10</u>	<u>U</u>
<u>124-48-1-----Dibromochloromethane</u>	<u>10</u>	<u>U</u>
<u>79-00-5-----1,1,2-Trichloroethane</u>	<u>10</u>	<u>U</u>
<u>71-43-2-----Benzene</u>	<u>10</u>	<u>U</u>
<u>10061-02-6-----trans-1,3-Dichloropropene</u>	<u>10</u>	<u>U</u>
<u>75-25-2-----Bromoform</u>	<u>10</u>	<u>U</u>
<u>591-78-6-----2-Hexanone</u>	<u>10</u>	<u>U</u>
<u>108-10-1-----4-Methyl-2-Pentanone</u>	<u>10</u>	<u>U</u>
<u>127-18-4-----Tetrachloroethene</u>	<u>10</u>	<u>U</u>
<u>79-34-5-----1,1,2,2-Tetrachloroethane</u>	<u>10</u>	<u>U</u>
<u>108-88-3-----Toluene</u>	<u>10</u>	<u>U</u>
<u>108-90-7-----Chlorobenzene</u>	<u>10</u>	<u>U</u>
<u>100-41-4-----Ethylbenzene</u>	<u>10</u>	<u>U</u>
<u>100-42-5-----Styrene</u>	<u>10</u>	<u>U</u>
<u>1330-20-7-----Xylene (total)</u>	<u>10</u>	<u>U</u>

[Signature]

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CH2M HILL/MGM

Contract: _____

CF-EFF-1

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424004

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C1V0021545

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	NOT IDENTIFIED	8.50	41	J

LA
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424005Sample wt/vol: 5.0 (g/mL) MLLab File ID: C1VO021544Level: (low/med) LOWDate Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92GC Column: CAP ID: 0.530 (mm)Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	5	BJ
67-64-1-----	Acetone	6	BJ
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloroproppane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
591-78-6-----	2-Hexanone	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

MS

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424005

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CIV0021544

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	15.87	7	J
2. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	19.60	19	J
3. 541-02-6	CYCLOPENTASILOXANE, DECAMETH	22.72	12	J

SEMIVOLATILE ORGANICS' ANALYSIS DATA SHEET

MW1S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424001Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010612Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/21/92Injection Volume: 2.0(uL)Dilution Factor: 10.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	57 J
111-44-4-----	bis(2-Chloroethyl)Ether	100 U
95-57-8-----	2-Chlorophenol	100 U
541-73-1-----	1,3-Dichlorobenzene	100 U
106-46-7-----	1,4-Dichlorobenzene	100 U
95-50-1-----	1,2-Dichlorobenzene	100 U
95-48-7-----	2-Methylphenol	100 U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	100 U
106-44-5-----	4-Methylphenol	23 J
621-64-7-----	N-Nitroso-Di-n-Propylamine	100 U
67-72-1-----	Hexachloroethane	100 U
98-95-3-----	Nitrobenzene	100 U
78-59-1-----	Isophorone	100 U
88-75-5-----	2-Nitrophenol	100 U
105-67-9-----	2,4-Dimethylphenol	100 U
111-91-1-----	bis(2-Chloroethoxy)Methane	100 U
120-83-2-----	2,4-Dichlorophenol	100 U
120-82-1-----	1,2,4-Trichlorobenzene	100 U
91-20-3-----	Naphthalene	1400 E
106-47-8-----	4-Chloroaniline	100 U
87-68-3-----	Hexachlorobutadiene	100 U
59-50-7-----	4-Chloro-3-Methylphenol	100 U
91-57-6-----	2-Methylnaphthalene	72 J
77-47-4-----	Hexachlorocyclopentadiene	100 U
88-06-2-----	2,4,6-Trichlorophenol	100 U
95-95-4-----	2,4,5-Trichlorophenol	250 U
91-58-7-----	2-Chloronaphthalene	100 U
88-74-4-----	2-Nitroaniline	250 U
131-11-3-----	Dimethylphthalate	100 U
208-96-8-----	Acenaphthylene	100 U
606-20-2-----	2,6-Dinitrotoluene	100 U
99-09-2-----	3-Nitroaniline	250 U
83-32-9-----	Acenaphthene	110 U

NS

SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

MW1S-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424001

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010612

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND			
51-28-5-----	2,4-Dinitrophenol	250	U	
100-02-7-----	4-Nitrophenol	250	U	
132-64-9-----	Dibenzofuran	46	J	
121-14-2-----	2,4-Dinitrotoluene	100	U	
84-66-2-----	Diethylphthalate	100	U	
7005-72-3-----	4-Chlorophenyl-phenylether	100	U	
86-73-7-----	Fluorene	46	J	
100-10-6-----	4-Nitroaniline	250	U	
534-52-1-----	4,6-Dinitro-2-methylphenol	250	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	100	U	
101-55-3-----	4-Bromophenyl-phenylether	100	U	
118-74-1-----	Hexachlorobenzene	100	U	
87-86-5-----	Pentachlorophenol	250	U	
85-01-8-----	Phenanthrene	27	J	
120-12-7-----	Anthracene	100	U	
86-74-8-----	Carbazole	86	J	
84-74-2-----	Di-n-Butylphthalate	100	U	
206-44-0-----	Fluoranthene	100	U	
129-00-0-----	Pyrene	100	U	
85-68-7-----	Butylbenzylphthalate	100	U	
91-94-1-----	3,3'-Dichlorobenzidine	100	U	
56-55-3-----	Benzo(a)Anthracene	100	U	
218-01-9-----	Chrysene	100	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	100	U	
117-84-0-----	Di-n-Octyl Phthalate	100	U	
205-99-2-----	Benzo(b)Fluoranthene	100	U	
207-08-9-----	Benzo(k)Fluoranthene	100	U	
50-32-8-----	Benzo(a)Pyrene	100	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	100	U	
53-70-3-----	Dibenz(a,h)Anthracene	100	U	
191-24-2-----	Benzo(g,h,i)Perylene	100	U	

(1) - Cannot be separated from Diphenylamine

MS

**SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW1S-1

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424001

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1BA010612

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NOT IDENTIFIED	11.87	200	J
2.	BENZENE, ETHENYL-METHYL- ISO	11.92	320	J
3.	BENZENE, ETHENYL-METHYL- ISO	12.09	390	J
4. 95-15-8	BENZO[B]THIOPHENE	14.62	240	J
5.	NOT IDENTIFIED	16.44	91	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LIA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1S-1_DL

, Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424001DLSample wt/vol: 1000 (g/mL) MLLab File ID: D2BA010619Level: (low/med) LOWDate Received: 04/10/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 25.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	44 BDJ
111-44-4-----	bis(2-Chloroethyl)Ether	250 U
95-57-8-----	2-Chlorophenol	250 U
541-73-1-----	1,3-Dichlorobenzene	250 U
106-46-7-----	1,4-Dichlorobenzene	250 U
95-50-1-----	1,2-Dichlorobenzene	250 U
95-48-7-----	2-Methylphenol	250 U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	250 U
106-44-5-----	4-Methylphenol	250 U
621-64-7-----	N-Nitroso-Di-n-Propylamine	250 U
67-72-1-----	Hexachloroethane	250 U
98-95-3-----	Nitrobenzene	250 U
78-59-1-----	Isophorone	250 U
88-75-5-----	2-Nitrophenol	250 U
105-67-9-----	2,4-Dimethylphenol	250 U
111-91-1-----	bis(2-Chloroethoxy)Methane	250 U
120-83-2-----	2,4-Dichlorophenol	250 U
120-82-1-----	1,2,4-Trichlorobenzene	250 U
91-20-3-----	Naphthalene	1500 D
106-47-8-----	4-Chloroaniline	250 U
87-68-3-----	Hexachlorobutadiene	250 U
59-50-7-----	4-Chloro-3-Methylphenol	250 U
91-57-6-----	2-Methylnaphthalene	70 DJ
77-47-4-----	Hexachlorocyclopentadiene	250 U
88-06-2-----	2,4,6-Trichlorophenol	250 U
95-95-4-----	2,4,5-Trichlorophenol	620 U
91-58-7-----	2-Chloronaphthalene	250 U
88-74-4-----	2-Nitroaniline	620 U
131-11-3-----	Dimethylphthalate	250 U
208-96-8-----	Acenaphthylene	250 U
606-20-2-----	2,6-Dinitrotoluene	250 U
99-09-2-----	3-Nitroaniline	620 U
83-32-9-----	Acenaphthene	110 DJ

FORM I SV-1

3/90

000025

MS

SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW1S-1_DLLab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424001DLSample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010619Level: (low/med) LOW Date Received: 04/10/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92Injection Volume: 2.0(uL) Dilution Factor: 25.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	620 U
100-02-7-----	4-Nitrophenol	620 U
132-64-9-----	Dibenzofuran	48 DJ
121-14-2-----	2,4-Dinitrotoluene	250 U
84-66-2-----	Diethylphthalate	250 U
7005-72-3-----	4-Chlorophenyl-phenylether	250 U
86-73-7-----	Fluorene	44 DJ
100-10-6-----	4-Nitroaniline	620 U
534-52-1-----	4,6-Dinitro-2-methylphenol	620 U
86-30-6-----	N-Nitrosodiphenylamine (1)	250 U
101-55-3-----	4-Bromophenyl-phenylether	250 U
118-74-1-----	Hexachlorobenzene	250 U
87-86-5-----	Pentachlorophenol	620 U
85-01-8-----	Phenanthrene	27 DJ
120-12-7-----	Anthracene	250 U
86-74-8-----	Carbazole	85 DJ
84-74-2-----	Di-n-Butylphthalate	250 U
206-44-0-----	Fluoranthene	250 U
129-00-0-----	Pyrene	250 U
85-68-7-----	Butylbenzylphthalate	250 U
91-94-1-----	3,3'-Dichlorobenzidine	250 U
56-55-3-----	Benzo(a)Anthracene	250 U
218-01-9-----	Chrysene	250 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	250 U
117-84-0-----	Di-n-Octyl Phthalate	250 U
205-99-2-----	Benzo(b)Fluoranthene	250 U
207-08-9-----	Benzo(k)Fluoranthene	250 U
50-32-8-----	Benzo(a)Pyrene	250 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	250 U
53-70-3-----	Dibenz(a,h)Anthracene	250 U
191-24-2-----	Benzo(g,h,i)Perylene	250 U

(1) - Cannot be separated from Diphenylamine

**SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

MW1S-1_DL

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424001DL

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D2BA010619

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 04/22/92

Injection Volume: 2.0(uL)

Dilution Factor: 25.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	11.79	88	J
2. 766-97-2	BENZENE, 1-ETHYNYL-4-METHYL-	11.95	96	J
3. 95-15-8	BENZO[B]THIOPHENE	14.54	68	J
4. 90-12-0	NAPHTHALENE, 1-METHYL-	16.37	91	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

CF-INF-1

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424002Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010613Level: (low/med) LOW Date Received: 04/10/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92Injection Volume: 2.0(uL) Dilution Factor: 1500.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	380000 BE
111-44-4-----	bis(2-Chloroethyl)Ether	15000 U
95-57-8-----	2-Chlorophenol	15000 U
541-73-1-----	1,3-Dichlorobenzene	15000 U
106-46-7-----	1,4-Dichlorobenzene	15000 U
95-50-1-----	1,2-Dichlorobenzene	15000 U
95-48-7-----	2-Methylphenol	49000
108-60-1-----	2,2'-oxybis(1-Chloropropane)	15000 U
106-44-5-----	4-Methylphenol	190000 E
621-64-7-----	N-Nitroso-Di-n-Propylamine	15000 U
67-72-1-----	Hexachloroethane	15000 U
98-95-3-----	Nitrobenzene	15000 U
78-59-1-----	Isophorone	15000 U
88-75-5-----	2-Nitrophenol	15000 U
105-67-9-----	2,4-Dimethylphenol	13000 J
111-91-1-----	bis(2-Chloroethoxy)Methane	15000 U
120-83-2-----	2,4-Dichlorophenol	15000 U
120-82-1-----	1,2,4-Trichlorobenzene	15000 U
91-20-3-----	Naphthalene	15000 U
106-47-8-----	4-Chloroaniline	15000 U
87-68-3-----	Hexachlorobutadiene	15000 U
59-50-7-----	4-Chloro-3-Methylphenol	15000 U
91-57-6-----	2-Methylnaphthalene	15000 U
77-47-4-----	Hexachlorocyclopentadiene	15000 U
88-06-2-----	2,4,6-Trichlorophenol	15000 U
95-95-4-----	2,4,5-Trichlorophenol	38000 U
91-58-7-----	2-Chloronaphthalene	15000 U
88-74-4-----	2-Nitroaniline	38000 U
131-11-3-----	Dimethylphthalate	15000 U
208-96-8-----	Acenaphthylene	15000 U
606-20-2-----	2,6-Dinitrotoluene	15000 U
99-09-2-----	3-Nitroaniline	38000 U
83-32-9-----	Acenaphthene	15000 U

1C
SEMICVOLATILE ORGANICS ANALYSIS' DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

CF-INF-1

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21424002Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010613Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/21/92Injection Volume: 2.0 (uL)Dilution Factor: 1500.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	38000	U
51-28-5-----	2,4-Dinitrophenol	38000	U
100-02-7-----	4-Nitrophenol	38000	U
132-64-9-----	Dibenzofuran	15000	U
121-14-2-----	2,4-Dinitrotoluene	15000	U
84-66-2-----	Diethylphthalate	15000	U
7005-72-3-----	4-Chlorophenyl-phenylether	15000	U
86-73-7-----	Fluorene	15000	U
100-10-6-----	4-Nitroaniline	38000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	38000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	15000	U
101-55-3-----	4-Bromophenyl-phenylether	15000	U
118-74-1-----	Hexachlorobenzene	15000	U
87-86-5-----	Pentachlorophenol	38000	U
85-01-8-----	Phenanthrene	15000	U
120-12-7-----	Anthracene	15000	U
86-74-8-----	Carbazole	15000	U
84-74-2-----	Di-n-Butylphthalate	15000	U
206-44-0-----	Fluoranthene	15000	U
129-00-0-----	Pyrene	15000	U
85-68-7-----	Butylbenzylphthalate	15000	U
91-94-1-----	3,3'-Dichlorobenzidine	15000	U
56-55-3-----	Benzo(a)Anthracene	15000	U
218-01-9-----	Chrysene	15000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	15000	U
117-84-0-----	Di-n-Octyl Phthalate	15000	U
205-99-2-----	Benzo(b)Fluoranthene	15000	U
207-08-9-----	Benzo(k)Fluoranthene	15000	U
50-32-8-----	Benzo(a)Pyrene	15000	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	15000	U
53-70-3-----	Dibenz(a,h)Anthracene	15000	U
191-24-2-----	Benzo(g,h,i)Perylene	15000	U

(1) - Cannot be separated from Diphenylamine

[Signature]

**SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

CF-INF-1

Lab Name: CH2M HILL/MGM Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424002

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010613

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/21/92

Injection Volume: 2.0(uL) Dilution Factor: 1500.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 2 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 99-04-7	PHENOL, DIMETHYL- ISOMER BENZOIC ACID, 3-METHYL-	14.02 15.55	12000 5500	J J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CF-INF-1_DL

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424002DLSample wt/vol: 1000 (g/mL) MLLab File ID: D2BA010620Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 6000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	260000 BD
111-44-4-----	bis(2-Chloroethyl)Ether	60000 U
95-57-8-----	2-Chlorophenol	60000 U
541-73-1-----	1,3-Dichlorobenzene	60000 U
106-46-7-----	1,4-Dichlorobenzene	60000 U
95-50-1-----	1,2-Dichlorobenzene	60000 U
95-48-7-----	2-Methylphenol	33000 DJ
108-60-1-----	2,2'-oxybis(1-Chloropropane)	60000 U
106-44-5-----	4-Methylphenol	130000 D
621-64-7-----	N-Nitroso-Di-n-Propylamine	60000 U
67-72-1-----	Hexachloroethane	60000 U
98-95-3-----	Nitrobenzene	60000 U
78-59-1-----	Isophorone	60000 U
88-75-5-----	2-Nitrophenol	60000 U
105-67-9-----	2,4-Dimethylphenol	11000 DJ
111-91-1-----	bis(2-Chloroethoxy)Methane	60000 U
120-83-2-----	2,4-Dichlorophenol	60000 U
120-82-1-----	1,2,4-Trichlorobenzene	60000 U
91-20-3-----	Naphthalene	60000 U
106-47-8-----	4-Chloroaniline	60000 U
87-68-3-----	Hexachlorobutadiene	60000 U
59-50-7-----	4-Chloro-3-Methylphenol	60000 U
91-57-6-----	2-Methylnaphthalene	60000 U
77-47-4-----	Hexachlorocyclopentadiene	60000 U
88-06-2-----	2,4,6-Trichlorophenol	60000 U
95-95-4-----	2,4,5-Trichlorophenol	150000 U
91-58-7-----	2-Chloronaphthalene	60000 U
88-74-4-----	2-Nitroaniline	150000 U
131-11-3-----	Dimethylphthalate	60000 U
208-96-8-----	Acenaphthylene	60000 U
606-20-2-----	2,6-Dinitrotoluene	60000 U
99-09-2-----	3-Nitroaniline	150000 U
83-32-9-----	Acenaphthene	60000 U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

CF-INF-1_DLLab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424002DLSample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010620Level: (low/med) LOW Date Received: 04/10/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92Injection Volume: 2.0(uL) Dilution Factor: 6000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	150000 U
100-02-7-----	4-Nitrophenol	150000 U
132-64-9-----	Dibenzofuran	60000 U
121-14-2-----	2,4-Dinitrotoluene	60000 U
84-66-2-----	Diethylphthalate	60000 U
7005-72-3-----	4-Chlorophenyl-phenylether	60000 U
86-73-7-----	Fluorene	60000 U
100-10-6-----	4-Nitroaniline	150000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	150000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	60000 U
101-55-3-----	4-Bromophenyl-phenylether	60000 U
118-74-1-----	Hexachlorobenzene	60000 U
87-86-5-----	Pentachlorophenol	150000 U
85-01-8-----	Phenanthrene	60000 U
120-12-7-----	Anthracene	60000 U
86-74-8-----	Carbazole	60000 U
84-74-2-----	Di-n-Butylphthalate	60000 U
206-44-0-----	Fluoranthene	60000 U
129-00-0-----	Pyrene	60000 U
85-68-7-----	Butylbenzylphthalate	60000 U
91-94-1-----	3,3'-Dichlorobenzidine	60000 U
56-55-3-----	Benzo(a)Anthracene	60000 U
218-01-9-----	Chrysene	60000 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	60000 U
117-84-0-----	Di-n-Octyl Phthalate	60000 U
205-99-2-----	Benzo(b)Fluoranthene	60000 U
207-08-9-----	Benzo(k)Fluoranthene	60000 U
50-32-8-----	Benzo(a)Pyrene	60000 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	60000 U
53-70-3-----	Dibenz(a,h)Anthracene	60000 U
191-24-2-----	Benzo(g,h,i)Perylene	60000 U

(1) - Cannot be separated from Diphenylamine

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

CF-INF-1_DL

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424002DL

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010620

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 6000.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

[Signature]

15
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424003Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010621Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 6000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	610000 BE
111-44-4-----	bis(2-Chloroethyl)Ether	60000 U
95-57-8-----	2-Chlorophenol	60000 U
541-73-1-----	1,3-Dichlorobenzene	60000 U
106-46-7-----	1,4-Dichlorobenzene	60000 U
95-50-1-----	1,2-Dichlorobenzene	60000 U
95-48-7-----	2-Methylphenol	82000
108-60-1-----	2,2'-oxybis(1-Chloropropane)	60000 U
106-44-5-----	4-Methylphenol	260000
621-64-7-----	N-Nitroso-Di-n-Propylamine	60000 U
67-72-1-----	Hexachloroethane	60000 U
98-95-3-----	Nitrobenzene	60000 U
78-59-1-----	Isophorone	60000 U
88-75-5-----	2-Nitrophenol	60000 U
105-67-9-----	2,4-Dimethylphenol	20000 J
111-91-1-----	bis(2-Chloroethoxy)Methane	60000 U
120-83-2-----	2,4-Dichlorophenol	60000 U
120-82-1-----	1,2,4-Trichlorobenzene	60000 U
91-20-3-----	Naphthalene	60000 U
106-47-8-----	4-Chloroaniline	60000 U
87-68-3-----	Hexachlorobutadiene	60000 U
59-50-7-----	4-Chloro-3-Methylphenol	60000 U
91-57-6-----	2-Methylnaphthalene	60000 U
77-47-4-----	Hexachlorocyclopentadiene	60000 U
88-06-2-----	2,4,6-Trichlorophenol	60000 U
95-95-4-----	2,4,5-Trichlorophenol	150000 U
91-58-7-----	2-Chloronaphthalene	60000 U
88-74-4-----	2-Nitroaniline	150000 U
131-11-3-----	Dimethylphthalate	60000 U
208-96-8-----	Acenaphthylene	60000 U
606-20-2-----	2,6-Dinitrotoluene	60000 U
99-09-2-----	3-Nitroaniline	150000 U
83-32-9-----	Acenaphthene	60000 U

MS

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1

Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424003Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010621Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 6000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	UG/L	Q
51-28-5-----	2,4-Dinitrophenol	150000	U
100-02-7-----	4-Nitrophenol	150000	U
132-64-9-----	Dibenzofuran	60000	U
121-14-2-----	2,4-Dinitrotoluene	60000	U
84-66-2-----	Diethylphthalate	60000	U
7005-72-3-----	4-Chlorophenyl-phenylether	60000	U
86-73-7-----	Fluorene	60000	U
100-10-6-----	4-Nitroaniline	150000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	150000	U
86-30-6-----	N-Nitrosodiphenylamine (1)	60000	U
101-55-3-----	4-Bromophenyl-phenylether	60000	U
118-74-1-----	Hexachlorobenzene	60000	U
87-86-5-----	Pentachlorophenol	150000	U
85-01-8-----	Phenanthrene	60000	U
120-12-7-----	Anthracene	60000	U
86-74-8-----	Carbazole	60000	U
84-74-2-----	Di-n-Butylphthalate	60000	U
206-44-0-----	Fluoranthene	60000	U
129-00-0-----	Pyrene	60000	U
85-68-7-----	Butylbenzylphthalate	60000	U
91-94-1-----	3,3'-Dichlorobenzidine	60000	U
56-55-3-----	Benzo(a)Anthracene	60000	U
218-01-9-----	Chrysene	60000	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	60000	U
117-84-0-----	Di-n-Octyl Phthalate	60000	U
205-99-2-----	Benzo(b)Fluoranthene	60000	U
207-08-9-----	Benzo(k)Fluoranthene	60000	U
50-32-8-----	Benzo(a)Pyrene	60000	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	60000	U
53-70-3-----	Dibenz(a,h)Anthracene	60000	U
191-24-2-----	Benzo(g,h,i)Perylene	60000	U

(1) - Cannot be separated from Diphenylamine

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

DATA SHEET NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424003

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1EA010621

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 6000.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	PHENOL, DIMETHYL- ISOMER	13.95	24000	J

15
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1_DLCode: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21424003DLSample wt/vol: 1000 (g/mL) MLLab File ID: D2BA010627Level: (low/med) LOWDate Received: 04/10/92

Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 10000.0GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	760000
111-44-4-----	bis(2-Chloroethyl)Ether	100000
95-57-8-----	2-Chlorophenol	100000
541-73-1-----	1,3-Dichlorobenzene	100000
106-46-7-----	1,4-Dichlorobenzene	100000
95-50-1-----	1,2-Dichlorobenzene	100000
95-48-7-----	2-Methylphenol	95000
108-60-1-----	2,2'-oxybis(1-Chloropropane)	100000
106-44-5-----	4-Methylphenol	310000
621-64-7-----	N-Nitroso-Di-n-Propylamine	100000
67-72-1-----	Hexachloroethane	100000
98-95-3-----	Nitrobenzene	100000
78-59-1-----	Isophorone	100000
88-75-5-----	2-Nitrophenol	100000
105-67-9-----	2,4-Dimethylphenol	26000
111-91-1-----	bis(2-Chloroethoxy)Methane	100000
120-83-2-----	2,4-Dichlorophenol	100000
120-82-1-----	1,2,4-Trichlorobenzene	100000
91-20-3-----	Naphthalene	100000
106-47-8-----	4-Chloroaniline	100000
87-68-3-----	Hexachlorobutadiene	100000
59-50-7-----	4-Chloro-3-Methylphenol	100000
91-57-6-----	2-Methylnaphthalene	100000
77-47-4-----	Hexachlorocyclopentadiene	100000
88-06-2-----	2,4,6-Trichlorophenol	100000
95-95-4-----	2,4,5-Trichlorophenol	250000
91-58-7-----	2-Chloronaphthalene	100000
88-74-4-----	2-Nitroaniline	250000
131-11-3-----	Dimethylphthalate	100000
208-96-8-----	Acenaphthylene	100000
606-20-2-----	2,6-Dinitrotoluene	100000
99-09-2-----	3-Nitroaniline	250000
83-32-9-----	Acenaphthene	100000

fls

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

LFA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

MW1D-1_DLLab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424003DLSample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010627Level: (low/med) LOW Date Received: 04/10/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92Injection Volume: 2.0(uL) Dilution Factor: 10000.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	250000 U
100-02-7-----	4-Nitrophenol	250000 U
132-64-9-----	Dibenzofuran	100000 U
121-14-2-----	2,4-Dinitrotoluene	100000 U
84-66-2-----	Diethylphthalate	100000 U
7005-72-3-----	4-Chlorophenyl-phenylether	100000 U
86-73-7-----	Fluorene	100000 U
100-10-6-----	4-Nitroaniline	250000 U
534-52-1-----	4,6-Dinitro-2-methylphenol	250000 U
86-30-6-----	N-Nitrosodiphenylamine (1)	100000 U
101-55-3-----	4-Bromophenyl-phenylether	100000 U
118-74-1-----	Hexachlorobenzene	100000 U
87-86-5-----	Pentachlorophenol	250000 U
85-01-8-----	Phenanthrene	100000 U
120-12-7-----	Anthracene	100000 U
86-74-8-----	Carbazole	100000 U
84-74-2-----	Di-n-Butylphthalate	100000 U
206-44-0-----	Fluoranthene	100000 U
129-00-0-----	Pyrene	100000 U
85-68-7-----	Butylbenzylphthalate	100000 U
91-94-1-----	3,3'-Dichlorobenzidine	100000 U
56-55-3-----	Benzo(a)Anthracene	100000 U
218-01-9-----	Chrysene	100000 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	100000 U
117-84-0-----	Di-n-Octyl Phthalate	100000 U
205-99-2-----	Benzo(b)Fluoranthene	100000 U
207-08-9-----	Benzo(k)Fluoranthene	100000 U
50-32-8-----	Benzo(a)Pyrene	100000 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	100000 U
53-70-3-----	Dibenz(a,h)Anthracene	100000 U
191-24-2-----	Benzo(g,h,i)Perylene	100000 U

(1) - Cannot be separated from Diphenylamine

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: <u>CH2M HILL/MGM</u>	Contract: _____	MW1D-1_DL
Code: _____	Case No.: <u>21424</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>21424003DL</u>	
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>D2BA010627</u>	
Level: (low/med) <u>LOW</u>	Date Received: <u>04/10/92</u>	
% Moisture: _____ decanted: (Y/N) _____	Date Extracted: <u>04/13/92</u>	
Concentrated Extract Volume: <u>1000</u> (uL)	Date Analyzed: <u>04/22/92</u>	
Injection Volume: <u>2.0</u> (uL)	Dilution Factor: <u>10000.0</u>	
GPC Cleanup: (Y/N) <u>N</u>	pH: _____	

CONCENTRATION UNITS:

Number TICs found: 1

(ug/L or ug/Kg) UG/L

CAS NUMBER =====	COMPOUND NAME =====	RT =====	EST. CONC. =====	Q =====
1.	NOT IDENTIFIED	34.61	130000	J

SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

CF-EFF-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424004Sample wt/vol: 1000 (g/mL) MLLab File ID: D2BA010626Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0 (uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2	Phenol	9 BJ
111-44-4	bis(2-Chloroethyl)Ether	10 U
95-57-8	2-Chlorophenol	10 U
541-73-1	1,3-Dichlorobenzene	10 U
106-46-7	1,4-Dichlorobenzene	10 U
95-50-1	1,2-Dichlorobenzene	10 U
95-48-7	2-Methylphenol	10 U
108-60-1	2,2'-oxybis(1-Chloropropane)	10 U
106-44-5	4-Methylphenol	4 J
621-64-7	N-Nitroso-Di-n-Propylamine	10 U
67-72-1	Hexachloroethane	10 U
98-95-3	Nitrobenzene	10 U
78-59-1	Isophorone	10 U
88-75-5	2-Nitrophenol	10 U
105-67-9	2,4-Dimethylphenol	10 U
111-91-1	bis(2-Chloroethoxy)Methane	10 U
120-83-2	2,4-Dichlorophenol	10 U
120-82-1	1,2,4-Trichlorobenzene	10 U
91-20-3	Naphthalene	10 U
106-47-8	4-Chloroaniline	10 U
87-68-3	Hexachlorobutadiene	10 U
59-50-7	4-Chloro-3-Methylphenol	10 U
91-57-6	2-Methylnaphthalene	10 U
77-47-4	Hexachlorocyclopentadiene	10 U
88-06-2	2,4,6-Trichlorophenol	10 U
95-95-4	2,4,5-Trichlorophenol	25 U
91-58-7	2-Chloronaphthalene	10 U
88-74-4	2-Nitroaniline	25 U
131-11-3	Dimethylphthalate	10 U
208-96-8	Acenaphthylene	10 U
606-20-2	2,6-Dinitrotoluene	10 U
99-09-2	3-Nitroaniline	25 U
83-32-9	Acenaphthene	10 U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CF-EFF-1

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424004Sample wt/vol: 1000 (g/mL) MLLab File ID: D2BA010626Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND			
51-28-5-----	2,4-Dinitrophenol	25	U	
100-02-7-----	4-Nitrophenol	25	U	
132-64-9-----	Dibenzofuran	10	U	
121-14-2-----	2,4-Dinitrotoluene	10	U	
84-66-2-----	Diethylphthalate	10	U	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	
86-73-7-----	Fluorene	10	U	
100-10-6-----	4-Nitroaniline	25	U	
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U	
101-55-3-----	4-Bromophenyl-phenylether	10	U	
118-74-1-----	Hexachlorobenzene	10	U	
87-86-5-----	Pentachlorophenol	25	U	
85-01-8-----	Phenanthrene	10	U	
120-12-7-----	Anthracene	10	U	
86-74-8-----	Carbazole	10	U	
84-74-2-----	Di-n-Butylphthalate	2	BJ	
206-44-0-----	Fluoranthene	10	U	
129-00-0-----	Pyrene	10	U	
85-68-7-----	Butylbenzylphthalate	10	U	
91-94-1-----	3,3'-Dichlorobenzidine	10	U	
56-55-3-----	Benzo(a)Anthracene	10	U	
218-01-9-----	Chrysene	10	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0-----	Di-n-Octyl Phthalate	10	U	
205-99-2-----	Benzo(b)Fluoranthene	10	U	
207-08-9-----	Benzo(k)Fluoranthene	10	U	
50-32-8-----	Benzo(a)Pyrene	10	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3-----	Dibenz(a,h)Anthracene	10	U	
191-24-2-----	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

[Signature]

**SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

CF-EFP-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424004

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D2BA010626

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 7

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 595-46-0	PROPANEDIOIC ACID, DIMETHYL-	7.85	95	J
2.	NOT IDENTIFIED	8.15	93	J
3. 109-52-4	PENTANOIC ACID	9.02	96	J
4.	NOT IDENTIFIED	9.19	32	J
5. 10544-50-0	SULFUR, MOL. (S8)	25.00	2000	J
6.	NOT IDENTIFIED	6.55	220	J
7.	NOT IDENTIFIED	9.34	27	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: 21424005Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010623Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 5.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	310	B
108-95-2-----	Phenol	50	U
111-44-4-----	bis(2-Chloroethyl)Ether	50	U
95-57-8-----	2-Chlorophenol	50	U
541-73-1-----	1,3-Dichlorobenzene	50	U
106-46-7-----	1,4-Dichlorobenzene	50	U
95-50-1-----	1,2-Dichlorobenzene	50	U
95-48-7-----	2-Methylphenol	36	J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	50	U
106-44-5-----	4-Methylphenol	110	
621-64-7-----	N-Nitroso-Di-n-Propylamine	50	U
67-72-1-----	Hexachloroethane	50	U
98-95-3-----	Nitrobenzene	50	U
78-59-1-----	Isophorone	50	U
88-75-5-----	2-Nitrophenol	50	U
105-67-9-----	2,4-Dimethylphenol	8	J
111-91-1-----	bis(2-Chloroethoxy)Methane	50	U
120-83-2-----	2,4-Dichlorophenol	50	U
120-82-1-----	1,2,4-Trichlorobenzene	50	U
91-20-3-----	Naphthalene	50	U
106-47-8-----	4-Chloroaniline	50	U
87-68-3-----	Hexachlorobutadiene	50	U
59-50-7-----	4-Chloro-3-Methylphenol	50	U
91-57-6-----	2-Methylnaphthalene	50	U
77-47-4-----	Hexachlorocyclopentadiene	50	U
88-06-2-----	2,4,6-Trichlorophenol	50	U
95-95-4-----	2,4,5-Trichlorophenol	120	U
91-58-7-----	2-Chloronaphthalene	50	U
88-74-4-----	2-Nitroaniline	120	U
131-11-3-----	Dimethylphthalate	50	U
208-96-8-----	Acenaphthylene	50	U
606-20-2-----	2,6-Dinitrotoluene	50	U
99-09-2-----	3-Nitroaniline	120	U
83-32-9-----	Acenaphthene	50	U

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J5

SEMICOLVATILE ORGANICS ANALYSIS DATA SHEET

FB-3

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424005Sample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010623Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/22/92Injection Volume: 2.0(uL)Dilution Factor: 5.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	120
100-02-7-----	4-Nitrophenol	120
132-64-9-----	Dibenzofuran	50
121-14-2-----	2,4-Dinitrotoluene	50
84-66-2-----	Diethylphthalate	50
7005-72-3-----	4-Chlorophenyl-phenylether	50
86-73-7-----	Fluorene	50
100-10-6-----	4-Nitroaniline	120
534-52-1-----	4,6-Dinitro-2-methylphenol	120
86-30-6-----	N-Nitrosodiphenylamine (1)	50
101-55-3-----	4-Bromophenyl-phenylether	50
118-74-1-----	Hexachlorobenzene	50
87-86-5-----	Pentachlorophenol	120
85-01-8-----	Phenanthrene	50
120-12-7-----	Anthracene	50
86-74-8-----	Carbazole	50
84-74-2-----	Di-n-Butylphthalate	50
206-44-0-----	Fluoranthene	50
129-00-0-----	Pyrene	50
85-68-7-----	Butylbenzylphthalate	50
91-94-1-----	3,3'-Dichlorobenzidine	50
56-55-3-----	Benzo(a)Anthracene	50
218-01-9-----	Chrysene	50
117-81-7-----	bis(2-Ethylhexyl)Phthalate	50
117-84-0-----	Di-n-Octyl Phthalate	50
205-99-2-----	Benzo(b)Fluoranthene	50
207-08-9-----	Benzo(k)Fluoranthene	50
50-32-8-----	Benzo(a)Pyrene	50
193-39-5-----	Indeno(1,2,3-cd)Pyrene	50
53-70-3-----	Dibenz(a,h)Anthracene	50
191-24-2-----	Benzo(g,h,i)Perylene	50

(1) - Cannot be separated from Diphenylamine

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3/90

MS

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DATA SHEET NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424005

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010623

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/22/92

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 1 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	NOT IDENTIFIED	6.65	220	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

FB-3_RX

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 21424005RXSample wt/vol: 1000 (g/mL) MLLab File ID: D1BA010845Level: (low/med) LOWDate Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 05/07/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 05/08/92Injection Volume: 2.0 (uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

[Signature]

SEMOVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3_RX

Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424005RX

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: DIBA010845

Level: (low/med) LOW

Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 05/07/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/08/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND			
51-28-5-----	2,4-Dinitrophenol	25	U	
100-02-7-----	4-Nitrophenol	25	U	
132-64-9-----	Dibenzofuran	10	U	
121-14-2-----	2,4-Dinitrotoluene	10	U	
84-66-2-----	Diethylphthalate	10	U	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	
86-73-7-----	Fluorene	10	U	
100-10-6-----	4-Nitroaniline	25	U	
534-52-1-----	4,6-Dinitro-2-methylphenol	25	U	
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U	
101-55-3-----	4-Bromophenyl-phenylether	10	U	
118-74-1-----	Hexachlorobenzene	10	U	
87-86-5-----	Pentachlorophenol	25	U	
85-01-8-----	Phenanthrene	10	U	
120-12-7-----	Anthracene	10	U	
86-74-8-----	Carbazole	10	U	
84-74-2-----	Di-n-Butylphthalate	11	B	
206-44-0-----	Fluoranthene	10	U	
129-00-0-----	Pyrene	10	U	
85-68-7-----	Butylbenzylphthalate	10	U	
91-94-1-----	3,3'-Dichlorobenzidine	10	U	
56-55-3-----	Benzo(a)Anthracene	10	U	
218-01-9-----	Chrysene	10	U	
117-81-7-----	bis(2-Ethylhexyl)Phthalate	2	J	
117-84-0-----	Di-n-Octyl Phthalate	10	U	
205-99-2-----	Benzo(b)Fluoranthene	10	U	
207-08-9-----	Benzo(k)Fluoranthene	10	U	
50-32-8-----	Benzo(a)Pyrene	10	U	
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3-----	Dibenz(a,h)Anthracene	10	U	
191-24-2-----	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

**SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS**

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3_RX

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424005RX

Sample wt/vol: 1000 (g/mL) ML Lab File ID: D1BA010845

Level: (low/med) LOW Date Received: 04/10/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 05/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 7

**CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L**

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 55044-48-9	1 H-PYRIMIDO[4,5,6-IJ][2,7]N	3.72	3	J
2. 541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	5.03	10	J
3.	NOT IDENTIFIED	6.50	150	J
4.	NOT IDENTIFIED	10.90	20	J
5. 542-18-7	CYCLOHEXANE, CHLORO-	14.90	52	J
6. 2114-42-3	CYCLOHEXANE, 2-PROPYENYL-	21.37	7	J
7. 10544-50-0	SULFUR, MOL. (S8)	22.87	5	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1S-1

b Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 21424001

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____ Date Received: 04/10/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/06/92

Injection Volume: 2.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6-----	alpha-BHC	0.10	U
319-85-7-----	beta-BHC	0.10	U
319-86-8-----	delta-BHC	0.10	U
58-89-9-----	gamma-BHC (Lindane)	0.10	U
76-44-8-----	Heptachlor	0.10	U
309-00-2-----	Aldrin	0.10	U
1024-57-3-----	Heptachlor epoxide	0.10	U
959-98-8-----	Endosulfan I	0.10	U
60-57-1-----	Dieldrin	0.20	U
72-55-9-----	4,4'-DDE	0.20	U
72-20-8-----	Endrin	0.20	U
33213-65-9-----	Endosulfan II	0.20	U
72-54-8-----	4,4'-DDD	0.20	U
1031-07-8-----	Endosulfan sulfate	0.20	U
50-29-3-----	4,4'-DDT	0.20	U
72-43-5-----	Methoxychlor	1.0	U
53494-70-5-----	Endrin ketone	0.20	U
7421-36-3-----	Endrin aldehyde	0.20	U
5103-71-9-----	alpha-Chlordane	0.10	U
5103-74-2-----	gamma-Chlordane	0.10	U
8001-35-2-----	Toxaphene	10	U
12674-11-2-----	Aroclor-1016	2.0	U
11104-28-2-----	Aroclor-1221	4.0	U
11141-16-5-----	Aroclor-1232	2.0	U
53469-21-9-----	Aroclor-1242	2.0	U
12672-29-6-----	Aroclor-1248	2.0	U
11097-69-1-----	Aroclor-1254	2.0	U
11096-82-5-----	Aroclor-1260	2.0	U

ID
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CF-INF-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M Case No.: 21424

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424002

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/10/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/13/92

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 05/06/92

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6-----	alpha-BHC	0.10	U
319-85-7-----	beta-BHC	0.10	U
319-86-8-----	delta-BHC	0.10	U
58-89-9-----	gamma-BHC (Lindane)	0.10	U
76-44-8-----	Heptachlor	0.10	U
309-00-2-----	Aldrin	0.10	U
1024-57-3-----	Heptachlor epoxide	0.10	U
959-98-8-----	Endosulfan I	0.10	U
60-57-1-----	Dieldrin	0.20	U
72-55-9-----	4,4'-DDE	0.20	U
72-20-8-----	Endrin	0.20	U
33213-65-9-----	Endosulfan II	0.20	U
72-54-8-----	4,4'-DDD	0.20	U
1031-07-8-----	Endosulfan sulfate	0.20	U
50-29-3-----	4,4'-DDT	0.20	U
72-43-5-----	Methoxychlor	1.0	U
53494-70-5-----	Endrin ketone	0.20	U
7421-36-3-----	Endrin aldehyde	0.20	U
5103-71-9-----	alpha-Chlordane	0.10	U
5103-74-2-----	gamma-Chlordane	0.10	U
8001-35-2-----	Toxaphene	10	U
12674-11-2-----	Aroclor-1016	2.0	U
11104-28-2-----	Aroclor-1221	4.0	U
11141-16-5-----	Aroclor-1232	2.0	U
53469-21-9-----	Aroclor-1242	2.0	U
12672-29-6-----	Aroclor-1248	2.0	U
11097-69-1-----	Aroclor-1254	2.0	U
11096-82-5-----	Aroclor-1260	2.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1D-1

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M

Case No.: 21424

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 21424003

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

% Moisture: _____ decanted: (Y/N) _____

Date Received: 04/10/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/13/92

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 05/06/92

Injection Volume: 2.00 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

319-84-6-----	alpha-BHC	0.10	U
319-85-7-----	beta-BHC	0.10	U
319-86-8-----	delta-BHC	0.10	U
58-89-9-----	gamma-BHC (Lindane)	0.10	U
76-44-8-----	Heptachlor	0.10	U
309-00-2-----	Aldrin	0.10	U
1024-57-3-----	Heptachlor epoxide	0.10	U
959-98-8-----	Endosulfan I	0.10	U
60-57-1-----	Dieldrin	0.20	U
72-55-9-----	4,4'-DDE	0.20	U
72-20-8-----	Endrin	0.20	U
33213-65-9-----	Endosulfan II	0.20	U
72-54-8-----	4,4'-DDD	0.20	U
1031-07-8-----	Endosulfan sulfate	0.20	U
50-29-3-----	4,4'-DDT	0.20	U
72-43-5-----	Methoxychlor	1.0	U
53494-70-5-----	Endrin ketone	0.20	U
7421-36-3-----	Endrin aldehyde	0.20	U
5103-71-9-----	alpha-Chlordane	0.10	U
5103-74-2-----	gamma-Chlordane	0.10	U
8001-35-2-----	Toxaphene	10	U
12674-11-2-----	Aroclor-1016	2.0	U
11104-28-2-----	Aroclor-1221	4.0	U
11141-16-5-----	Aroclor-1232	2.0	U
53469-21-9-----	Aroclor-1242	2.0	U
12672-29-6-----	Aroclor-1248	2.0	U
11097-69-1-----	Aroclor-1254	2.0	U
11096-82-5-----	Aroclor-1260	2.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

CF-EFF-1

Lab Code: CH2M Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424004Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____Moisture: _____ decanted: (Y/N) _____ Date Received: 04/10/92Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/13/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/06/92Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

<u>319-84-6-----alpha-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-85-7-----beta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>319-86-8-----delta-BHC</u>	<u>0.050</u>	<u>U</u>
<u>58-89-9-----gamma-BHC (Lindane)</u>	<u>0.050</u>	<u>U</u>
<u>76-44-8-----Heptachlor</u>	<u>0.050</u>	<u>U</u>
<u>309-00-2-----Aldrin</u>	<u>0.050</u>	<u>U</u>
<u>1024-57-3-----Heptachlor epoxide</u>	<u>0.050</u>	<u>U</u>
<u>959-98-8-----Endosulfan I</u>	<u>0.050</u>	<u>U</u>
<u>60-57-1-----Dieldrin</u>	<u>0.10</u>	<u>U</u>
<u>72-55-9-----4,4'-DDE</u>	<u>0.10</u>	<u>U</u>
<u>72-20-8-----Endrin</u>	<u>0.10</u>	<u>U</u>
<u>33213-65-9-----Endosulfan II</u>	<u>0.10</u>	<u>U</u>
<u>72-54-8-----4,4'-DDD</u>	<u>0.10</u>	<u>U</u>
<u>1031-07-8-----Endosulfan sulfate</u>	<u>0.10</u>	<u>U</u>
<u>50-29-3-----4,4'-DDT</u>	<u>0.10</u>	<u>U</u>
<u>72-43-5-----Methoxychlor</u>	<u>0.50</u>	<u>U</u>
<u>53494-70-5-----Endrin ketone</u>	<u>0.10</u>	<u>U</u>
<u>7421-36-3-----Endrin aldehyde</u>	<u>0.10</u>	<u>U</u>
<u>5103-71-9-----alpha-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>5103-74-2-----gamma-Chlordane</u>	<u>0.050</u>	<u>U</u>
<u>8001-35-2-----Toxaphene</u>	<u>5.0</u>	<u>U</u>
<u>12674-11-2-----Aroclor-1016</u>	<u>1.0</u>	<u>U</u>
<u>11104-28-2-----Aroclor-1221</u>	<u>2.0</u>	<u>U</u>
<u>11141-16-5-----Aroclor-1232</u>	<u>1.0</u>	<u>U</u>
<u>53469-21-9-----Aroclor-1242</u>	<u>1.0</u>	<u>U</u>
<u>12672-29-6-----Aroclor-1248</u>	<u>1.0</u>	<u>U</u>
<u>11097-69-1-----Aroclor-1254</u>	<u>1.0</u>	<u>U</u>
<u>11096-82-5-----Aroclor-1260</u>	<u>1.0</u>	<u>U</u>

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

FB-3

Code: CH2M Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 21424005Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____Moisture: _____ decanted: (Y/N) _____ Date Received: 04/10/92Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/13/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/06/92Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

319-84-6-----alpha-BHC	0.050	U
319-85-7-----beta-BHC	0.050	U
319-86-8-----delta-BHC	0.050	U
58-89-9-----gamma-BHC (Lindane)	0.050	U
76-44-8-----Heptachlor	0.050	U
309-00-2-----Aldrin	0.050	U
1024-57-3-----Heptachlor epoxide	0.050	U
959-98-8-----Endosulfan I	0.050	U
60-57-1-----Dieldrin	0.10	U
72-55-9-----4,4'-DDE	0.10	U
72-20-8-----Endrin	0.10	U
33213-65-9-----Endosulfan II	0.10	U
72-54-8-----4,4'-DDD	0.10	U
1031-07-8-----Endosulfan sulfate	0.10	U
50-29-3-----4,4'-DDT	0.10	U
72-43-5-----Methoxychlor	0.50	U
53494-70-5-----Endrin ketone	0.10	U
7421-36-3-----Endrin aldehyde	0.10	U
5103-71-9-----alpha-Chlordane	0.050	U
5103-74-2-----gamma-Chlordane	0.050	U
8001-35-2-----Toxaphene	5.0	U
12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	2.0	U
11141-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01 CF-EFF-1	95	100	100	0	0
02 CF-INF-1	102	103	102	0	0
03 FB-3	98	103	98	0	0
04 MW1D-1	95	103	101	0	0
05 MW1D-1_DL	102	104	102	0	0
06 MW1S-1	95	98	98	0	0
07 VBLKW	92	95	98	0	0

QC LIMITS

SMC1 (TOL) = Toluene-d8 (88-110)

SMC2 (BFB) = Bromofluorobenzene (86-115)

SMC3 (DCE) = 1,2-Dichloroethane-d4(76-114)

* Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

J-N Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01 CF-EFF-1	110	78	84	116 *	100	76	104	71	1
02 CF-INF-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
03 CF-INF-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
04 FB-3	86	63	76	92	86	57	82	63	0
05 FB-3_RX	60	46	54	34	24	50	55	45	0
06 MW1D-1	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
07 MW1D-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
08 MW1S-1	96	60	66	100	101	74	96	73	0
09 MW1S-1_DL	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0 D	0
10 SBLKW	54	50	47	62	62	121	65	50	0
11 SBLKW_2	54	43	54	56	63	44	59	47	0

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-110)
S5 (2FP) = 2-Fluorophenol	(21-110)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)
S7 (2CP) = 2-Chlorophenol-d4	(33-110) (advisory)
S8 (DCB) = 1,2-Dichlorobenzene-d4	(16-110) (advisory)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

MJ

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: CH2M

Case No.: 21424

SAS No.: _____

SDG No.: _____

GC Column(1): SPB-5

ID: 0.53(mm)

GC Column(2): SPB-608

ID: 0.53(mm)

	EPA SAMPLE NO.	TCX %REC #	TCX %REC #	DCB %REC #	DCB %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK13	69	69	88	77			0
02	CF-EFF-1	66	62	58*	52*			2
03	CF-INF-1	144	100	66	61			0
04	FB-3	57*	51*	53*	48*			4
05	MW1D-1	108	116	133	119			0
06	MW1S-1	65	91	91	86			0

**ADVISORY
QC LIMITS**

TCX = Tetrachloro-m-xylene

(60-150)

DCB = Decachlorobiphenyl

(60-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Lab File ID: CBVO021540 Lab Sample ID: X04202B1Date Analyzed: 04/20/92 Time Analyzed: 0857GC Column: CAP ID: 0.530(mm) Heated Purge: (Y/N) YInstrument ID: 4500

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 CF-EFF-1	21424004	C1VO021545	1200
02 CF-INF-1	21424002	C2VO021549	1413
03 FB-3	21424005	C1VO021544	1128
04 MW1D-1	21424003	C1VO021548	1338
05 MW1D-1_DL	21424003DL	C2VO021551	1528
06 MW1S-1	21424001	C1VO021546	1232

MENTS: CLP,21396,,VBLKW,L,W,X04202B1,V,B,
10DG TO 200DG @8DG/MIN IH=3MIN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKW

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: X04202B1

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CBVO021540

Level: (low/med) LOW

Date Received: 04/20/92

% Moisture: not dec. _____

Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

<u>74-87-3-----Chloromethane</u>	<u>10</u>	<u>U</u>
<u>74-83-9-----Bromomethane</u>	<u>10</u>	<u>U</u>
<u>75-01-4-----Vinyl Chloride</u>	<u>10</u>	<u>U</u>
<u>75-00-3-----Chloroethane</u>	<u>10</u>	<u>U</u>
<u>75-09-2-----Methylene Chloride</u>	<u>5</u>	<u>J</u>
<u>67-64-1-----Acetone</u>	<u>4</u>	<u>J</u>
<u>75-15-0-----Carbon Disulfide</u>	<u>10</u>	<u>U</u>
<u>75-35-4-----1,1-Dichloroethene</u>	<u>10</u>	<u>U</u>
<u>75-34-3-----1,1-Dichloroethane</u>	<u>10</u>	<u>U</u>
<u>540-59-0-----1,2-Dichloroethene (total)</u>	<u>10</u>	<u>U</u>
<u>67-66-3-----Chloroform</u>	<u>10</u>	<u>U</u>
<u>107-06-2-----1,2-Dichloroethane</u>	<u>10</u>	<u>U</u>
<u>78-93-3-----2-Butanone</u>	<u>5</u>	<u>J</u>
<u>71-55-6-----1,1,1-Trichloroethane</u>	<u>10</u>	<u>U</u>
<u>56-23-5-----Carbon Tetrachloride</u>	<u>10</u>	<u>U</u>
<u>75-27-4-----Bromodichloromethane</u>	<u>10</u>	<u>U</u>
<u>78-87-5-----1,2-Dichloroproppane</u>	<u>10</u>	<u>U</u>
<u>10061-01-5-----cis-1,3-Dichloropropene</u>	<u>10</u>	<u>U</u>
<u>79-01-6-----Trichloroethene</u>	<u>10</u>	<u>U</u>
<u>124-48-1-----Dibromochloromethane</u>	<u>10</u>	<u>U</u>
<u>79-00-5-----1,1,2-Trichloroethane</u>	<u>10</u>	<u>U</u>
<u>71-43-2-----Benzene</u>	<u>10</u>	<u>U</u>
<u>10061-02-6-----trans-1,3-Dichloropropene</u>	<u>10</u>	<u>U</u>
<u>75-25-2-----Bromoform</u>	<u>10</u>	<u>U</u>
<u>591-78-6-----2-Hexanone</u>	<u>10</u>	<u>U</u>
<u>108-10-1-----4-Methyl-2-Pentanone</u>	<u>10</u>	<u>U</u>
<u>127-18-4-----Tetrachloroethene</u>	<u>10</u>	<u>U</u>
<u>79-34-5-----1,1,2,2-Tetrachloroethane</u>	<u>10</u>	<u>U</u>
<u>108-88-3-----Toluene</u>	<u>10</u>	<u>U</u>
<u>108-90-7-----Chlorobenzene</u>	<u>10</u>	<u>U</u>
<u>100-41-4-----Ethylbenzene</u>	<u>10</u>	<u>U</u>
<u>100-42-5-----Styrene</u>	<u>10</u>	<u>U</u>
<u>1330-20-7-----Xylene (total)</u>	<u>10</u>	<u>U</u>

1E
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

VBLKW

1 Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: X04202B1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CBV0021540

Level: (low/med) LOW Date Received: 04/20/92

% Moisture: not dec. _____ Date Analyzed: 04/20/92

GC Column: CAP ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Lab File ID: DBBA010598

Lab Sample ID: C04132B1

Instrument ID: 5100D

Date Extracted: 04/13/92

Matrix: (soil/water) WATER

Date Analyzed: 04/20/92

Level: (low/med) LOW

Time Analyzed: 2033

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	CF-EFF-1	21424004	D2BA010626	04/22/92
02	CF-INF-1	21424002	D1BA010613	04/21/92
03	CF-INF-1_DL	21424002DL	D2BA010620	04/22/92
04	FB-3	21424005	D1BA010623	04/22/92
05	MW1D-1	21424003	D1BA010621	04/22/92
06	MW1D-1_DL	21424003DL	D2BA010627	04/22/92
07	MW1S-1	21424001	D1BA010612	04/21/92
08	MW1S-1_DL	21424001DL	D2BA010619	04/22/92

COMMENTS: CLP, 21424,,SBLKW,L,W,C04312B1,B,BLANK,
30DG TO 300DG @10DG/MIN IH=4MINS

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: C04132B1Sample wt/vol: 1000 (g/mL) ML Lab File ID: DBBA010598Level: (low/med) LOW Date Received: 04/13/92% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/20/92Injection Volume: 2.0(uL) Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
108-95-2-----	Phenol	J
111-44-4-----	bis(2-Chloroethyl)Ether	U
95-57-8-----	2-Chlorophenol	U
541-73-1-----	1,3-Dichlorobenzene	U
106-46-7-----	1,4-Dichlorobenzene	U
95-50-1-----	1,2-Dichlorobenzene	U
95-48-7-----	2-Methylphenol	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	U
106-44-5-----	4-Methylphenol	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	U
67-72-1-----	Hexachloroethane	U
98-95-3-----	Nitrobenzene	U
78-59-1-----	Isophorone	U
88-75-5-----	2-Nitrophenol	U
105-67-9-----	2,4-Dimethylphenol	U
111-91-1-----	bis(2-Chloroethoxy)Methane	U
120-83-2-----	2,4-Dichlorophenol	U
120-82-1-----	1,2,4-Trichlorobenzene	U
91-20-3-----	Naphthalene	U
106-47-8-----	4-Chloroaniline	U
87-68-3-----	Hexachlorobutadiene	U
59-50-7-----	4-Chloro-3-Methylphenol	U
91-57-6-----	2-Methylnaphthalene	U
77-47-4-----	Hexachlorocyclopentadiene	U
88-06-2-----	2,4,6-Trichlorophenol	U
95-95-4-----	2,4,5-Trichlorophenol	U
91-58-7-----	2-Chloronaphthalene	U
88-74-4-----	2-Nitroaniline	U
131-11-3-----	Dimethylphthalate	U
208-96-8-----	Acenaphthylene	U
606-20-2-----	2,6-Dinitrotoluene	U
99-09-2-----	3-Nitroaniline	U
83-32-9-----	Acenaphthene	U

Mr

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKWLab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: C04132B1Sample wt/vol: 1000 (g/mL) MLLab File ID: DBBA010598Level: (low/med) LOWDate Received: 04/13/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 04/13/92Concentrated Extract Volume: 1000 (uL)Date Analyzed: 04/20/92Injection Volume: 2.0(uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N pH: _____CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	25 U
100-02-7-----	4-Nitrophenol	25 U
132-64-9-----	Dibenzofuran	10 U
121-14-2-----	2,4-Dinitrotoluene	10 U
84-66-2-----	Diethylphthalate	10 U
7005-72-3-----	4-Chlorophenyl-phenylether	10 U
86-73-7-----	Fluorene	10 U
100-10-6-----	4-Nitroaniline	25 U
534-52-1-----	4,6-Dinitro-2-methylphenol	25 U
86-30-6-----	N-Nitrosodiphenylamine (1)	10 U
101-55-3-----	4-Bromophenyl-phenylether	10 U
118-74-1-----	Hexachlorobenzene	10 U
87-86-5-----	Pentachlorophenol	25 U
85-01-8-----	Phenanthrene	10 U
120-12-7-----	Anthracene	10 U
86-74-8-----	Carbazole	10 U
84-74-2-----	Di-n-Butylphthalate	1 J
206-44-0-----	Fluoranthene	10 U
129-00-0-----	Pyrene	10 U
85-68-7-----	Butylbenzylphthalate	10 U
91-94-1-----	3,3'-Dichlorobenzidine	10 U
56-55-3-----	Benzo(a)Anthracene	10 U
218-01-9-----	Chrysene	10 U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10 U
117-84-0-----	Di-n-Octyl Phthalate	10 U
205-99-2-----	Benzo(b)Fluoranthene	10 U
207-08-9-----	Benzo(k)Fluoranthene	10 U
50-32-8-----	Benzo(a)Pyrene	10 U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10 U
53-70-3-----	Dibenz(a,h)Anthracene	10 U
191-24-2-----	Benzo(g,h,i)Perylene	10 U

(1) - Cannot be separated from Diphenylamine

fbx

1F
SEMICVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: C04132B1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: DBBA010598

Level: (low/med) LOW Date Received: 04/13/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 04/13/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/20/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

ab Name: CH2M HILL/MGM

Contract: _____

SBLKW_2ab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____ab File ID: DBBA010844 Lab Sample ID: C05072B1Instrument ID: 5100D Date Extracted: 05/07/92Matrix: (soil/water) WATER Date Analyzed: 05/08/92Level: (low/med) LOW Time Analyzed: 1247

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	<u>FB-3_RX</u>	<u>21424005RX</u>	<u>D1BA010845</u>	<u>05/08/92</u>

COMMENTS: CLP, 21424,, SBLKW, L,W,C05072B1,BNA, BLANK,
30DG TO 310DG @10DG/MIN IH=4MINS

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

SBLKW_2

Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: C05072B1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: DBBA010844

Level: (low/med) LOW Date Received: 05/07/92

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 05/07/92

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/08/92

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	UG/L	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
111-91-1-----	bis(2-Chloroethoxy)Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW_2

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: C05072B1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: DBBA010844

Level: (low/med) LOW

Date Received: 05/07/92

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 05/07/92

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/08/92

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	Q
51-28-5-----	2,4-Dinitrophenol	25
100-02-7-----	4-Nitrophenol	25
132-64-9-----	Dibenzofuran	10
121-14-2-----	2,4-Dinitrotoluene	10
84-66-2-----	Diethylphthalate	10
7005-72-3-----	4-Chlorophenyl-phenylether	10
86-73-7-----	Fluorene	10
100-10-6-----	4-Nitroaniline	25
534-52-1-----	4,6-Dinitro-2-methylphenol	25
86-30-6-----	N-Nitrosodiphenylamine (1)	10
101-55-3-----	4-Bromophenyl-phenylether	10
118-74-1-----	Hexachlorobenzene	10
87-86-5-----	Pentachlorophenol	25
85-01-8-----	Phenanthrene	10
120-12-7-----	Anthracene	10
86-74-8-----	Carbazole	10
84-74-2-----	Di-n-Butylphthalate	12
206-44-0-----	Fluoranthene	10
129-00-0-----	Pyrene	10
85-68-7-----	Butylbenzylphthalate	10
91-94-1-----	3,3'-Dichlorobenzidine	10
56-55-3-----	Benzo(a)Anthracene	10
218-01-9-----	Chrysene	10
117-81-7-----	bis(2-Ethylhexyl)Phthalate	10
117-84-0-----	Di-n-Octyl Phthalate	10
205-99-2-----	Benzo(b)Fluoranthene	10
207-08-9-----	Benzo(k)Fluoranthene	10
50-32-8-----	Benzo(a)Pyrene	10
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10
53-70-3-----	Dibenz(a,h)Anthracene	10
191-24-2-----	Benzo(g,h,i)Perylene	10

(1) - Cannot be separated from Diphenylamine

MS

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: <u>CH2M HILL/MGM</u>	Contract: _____	SBLKW_2
Code: _____	Case No.: <u>21424</u>	SAS No.: _____ SDG No.: _____
Matrix: (soil/water) <u>WATER</u>		Lab Sample ID: <u>C05072B1</u>
Sample wt/vol:	<u>1000</u> (g/mL) <u>ML</u>	Lab File ID: <u>DBBA010844</u>
Level:	(low/med) <u>LOW</u>	Date Received: <u>05/07/92</u>
% Moisture:	decanted: (Y/N) <u> </u>	Date Extracted: <u>05/07/92</u>
Concentrated Extract Volume: <u>1000</u> (uL)		Date Analyzed: <u>05/08/92</u>
Injection Volume: <u>2.0</u> (uL)		Dilution Factor: <u>1.0</u>
GPC Cleanup: (Y/N) <u>N</u>	pH: <u> </u>	

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: CH2M HILL/MGM

Contract: _____

PBLK13

Lab Code: CH2M Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab Sample ID: W04132B3

Lab File ID: _____

Matrix: (soil/water) WATERExtraction: (SepF/Cont/Sonc) SEPFSulfur Cleanup: (Y/N) YDate Extracted: 04/13/92Date Analyzed (1): 05/06/92Date Analyzed (2): 05/06/92Time Analyzed (1): 0429Time Analyzed (2): 0429Instrument ID (1): V6000AInstrument ID (2): V6000BGC Column (1): SPB-5 ID: 0.53 (mm) GC Column (2): SPB-608 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01 CF-EFF-1	21424004	05/06/92	05/06/92
02 CF-INF-1	21424002	05/06/92	05/06/92
03 FB-3	21424005	05/06/92	05/06/92
04 MW1D-1	21424003	05/06/92	05/06/92
05 MW1S-1	21424001	05/06/92	05/06/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK13

Lab Name: CH2M HILL/MGM Contract: _____Code: CH2M Case No.: 21424 SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: W04132B3Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Moisture: _____ decanted: (Y/N) _____ Date Received: _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/13/92Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/06/92Injection Volume: 2.00 (uL) Dilution Factor: 1.00GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.050	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-36-3-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Lab File ID (Standard): CSV0021539

Date Analyzed: 04/20/92

Instrument ID: 4500

Time Analyzed: 0755

GC Column: CAP ID: 0.530(mm)

Heated Purge: (Y/N) Y

	IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
12 HOUR STD	63339	12.14	256851	13.60	223443	18.50
UPPER LIMIT	126678	12.64	513702	14.10	446886	19.00
LOWER LIMIT	31670	11.64	128426	13.10	111722	18.00
EPA SAMPLE NO.						
01 CF-EFF-1	66541	12.04	265513	13.54	239314	18.45
02 CF-INF-1	63644	12.14	250482	13.62	215608	18.52
03 FB-3	63573	12.12	261853	13.60	227380	18.50
04 MW1D-1	68964	12.10	273099	13.59	235039	18.49
05 MW1D-1_DL	65032	12.07	266306	13.55	228807	18.49
06 MW1S-1	69425	12.10	272530	13.59	244520	18.49
07 VBLKW	70935	12.12	282561	13.60	246645	18.49

IS1 (BCM) = Bromochloromethane

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

* Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

J - h Code: _____

Case No.: 21424

SAS No.: _____

SDG No.: _____

Lab File ID (Standard): DSBA010589

Date Analyzed: 04/20/92

Instrument ID: 5100D

Time Analyzed: 1054

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	11050	11.57	39984	14.57	22552	19.02
UPPER LIMIT	22100	12.07	79968	15.07	45104	19.52
LOWER LIMIT	5525	11.07	19992	14.07	11276	18.52
EPA SAMPLE NO.						
01 SBLKW	10622	11.64	40562	14.62	23136	19.07

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424 SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010589

Date Analyzed: 04/20/92

Instrument ID: 5100D

Time Analyzed: 1054

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	29940	22.80	25161	29.46	22132	33.22
UPPER LIMIT	59880	23.30	50322	29.96	44264	33.72
LOWER LIMIT	14970	22.30	12580	28.96	11066	32.72
EPA SAMPLE NO.						
01 SBLKW	35982	22.85	31298	29.79	31642	33.56

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

* Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

1/5

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010601

Date Analyzed: 04/21/92

Instrument ID: 5100D

Time Analyzed: 0828

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	16974	11.47	54376	14.42	28958	18.82
UPPER LIMIT	33948	11.97	108752	14.92	57916	19.32
LOWER LIMIT	8487	10.97	27188	13.92	14479	18.32
EPA SAMPLE NO.						
01 CF-INF-1	8619	11.44	32745	14.42	18177	18.84
02 MW1S-1	8664	11.45	32740	14.44	17059	18.84

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010601

Date Analyzed: 04/21/92

Instrument ID: 5100D

Time Analyzed: 0828

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	39214	22.59	33385	29.51	30213	33.19
UPPER LIMIT	78428	23.09	66770	30.01	60426	33.69
LOWER LIMIT	19607	22.09	16692	29.01	15106	32.69
EPA SAMPLE NO.						
01 CF-INF-1	25979	22.60	19874	29.52	19049	33.21
02 MW1S-1	25205	22.60	19733	29.52	19460	33.22

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616

Date Analyzed: 04/22/92

Instrument ID: 5100D

Time Analyzed: 0904

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	17318	11.30	64323	14.30	38328	18.75
UPPER LIMIT	34636	11.80	128646	14.80	76656	19.25
LOWER LIMIT	8659	10.80	32162	13.80	19164	18.25
EPA SAMPLE NO.						
01 CF-EFF-1	12522	11.29	49425	14.29	28361	18.74
02 CF-INF-1_DL	12215	11.32	45579	14.35	24914	18.80
03 FB-3	10210	11.34	41711	14.35	23418	18.80
04 MW1D-1	12800	11.30	51509	14.34	29703	18.80
05 MW1D-1_DL	13350	11.25	51381	14.24	28580	18.69
06 MW1S-1_DL	15379	11.30	58921	14.34	31261	18.80

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

- # Column used to flag internal standard area values with an asterisk.
- * Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010616

Date Analyzed: 04/22/92

Instrument ID: 5100D

Time Analyzed: 0904

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	58733	22.54	52580	29.47	51719	33.14
UPPER LIMIT	117466	23.04	105160	29.97	103438	33.64
LOWER LIMIT	29366	22.04	26290	28.97	25860	32.64
EPA SAMPLE NO.						
01 CF-EFF-1	40930	22.52	37040	29.46	38856	33.14
02 CF-INF-1_DL	36627	22.59	26327	29.51	25886	33.19
03 FB-3	37843	22.59	30323	29.49	30960	33.19
04 MW1D-1	46151	22.59	35617	29.51	36716	33.19
05 MW1D-1_DL	46692	22.45	39407	29.37	38167	33.02
06 MW1S-1_DL	49306	22.59	40920	29.51	39597	33.19

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

* Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

[Signature]

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010843

Date Analyzed: 05/08/92

Instrument ID: 5100D

Time Analyzed: 1157

	IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
12 HOUR STD	11277	9.04	45133	11.99	30928	16.34
UPPER LIMIT	22554	9.54	90266	12.49	61856	16.84
LOWER LIMIT	5638	8.54	22566	11.49	15464	15.84
EPA SAMPLE NO.						
01 FB-3_RX	12010	9.00	54542	11.99	33903	16.35
02 SBLKW_2	12705	9.04	61547	12.00	39173	16.37

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CH2M HILL/MGM

Contract: _____

Lab Code: _____ Case No.: 21424

SAS No.: _____ SDG No.: _____

Lab File ID (Standard): DSBA010843

Date Analyzed: 05/08/92

Instrument ID: 5100D

Time Analyzed: 1157

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	51544	20.02	57149	26.81	64669	30.21
UPPER LIMIT	103088	20.52	114298	27.31	129338	30.71
LOWER LIMIT	25772	19.52	28574	26.31	32334	29.71
EPA SAMPLE NO.						
01 FB-3_RX	68221	20.02	58324	26.82	*	*
02 SBLKW_2	71336	20.04	84845	26.84	91627	30.27

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = + 100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = +0.50 minutes of internal standard RT.

RT LOWER LIMIT = -0.50 minutes of internal standard RT.

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

SAMPLE DATA PACKAGE

000079

SAMPLE DATA PACKAGE
CASE NARRATIVE

000080



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CASE NARRATIVE FOR VOLATILE
MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

<u>LAB ID</u>	<u>CLIENT ID</u>	<u>SAMPLE MATRIX</u>	<u>DATE SAMPLED</u>	<u>EXTRACTION DATE</u>	<u>ANALYSIS DATE</u>
21424001	MW1S-1	WATER	04/09/92	NA	04/20/92
21424002	CF-INF-1	WATER	04/09/92	NA	04/20/92
21424003	MW1D-1	WATER	04/09/92	NA	04/20/92
21424003DL	MW1D-1 DL	WATER	04/09/92	NA	04/20/92
21424004	CF-EFF-1	WATER	04/09/92	NA	04/20/92
21424005	FB-3	WATER	04/09/92	NA	04/20/92
X04202B1	VBLKW	WATER	NA	NA	04/20/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding Times: Medium level protocol was not performed; therefore, extraction time is not applicable.

B. Extraction

Exceptions : Not applicable.



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VOLATILE
LAB NO. 21424
PAGE 2

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Unless otherwise indicated, all water volatile samples were analyzed using the HCl-preserved vial.

Due to saturation of the quantitation ion (mz 78), the quantitated amount of Benzene present in sample 21424003 (MWID-1) was determined by using a secondary ion (mz 77) quantitation. A chromatogram demonstrating the saturation has been included with the sample as well as the calculation used to determine the amount of Benzene present in the sample. The sample was diluted and reanalyzed. The results of both analyses have been reported.

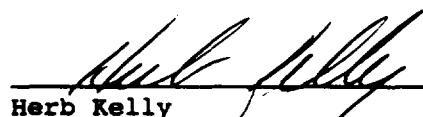
No other exceptions were encountered.

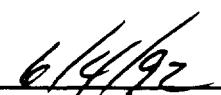
IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : All samples met acceptable QC limits.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Herb Kelly
Manager, Organic Division

 Date 6/4/92



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METHYLICN CHLORIDE/ACETONE SUMMARY

Due to the level of target compounds, the following samples required large dilutions for analysis. As required by the Statement of Work, these dilution factors have been applied, without background subtraction, to all detected compounds, particularly methylene chloride and acetone. As methylene chloride and acetone are common laboratory contaminants, the following table is being provided to present a more accurate perspective of these compounds. Included in the table is 1) the amount of methylene chloride and acetone, detected at the instrument, prior to multiplication by the dilution factor; and 2) the amount of methylene chloride and acetone for that particular sample's laboratory method blank.



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CASE NARRATIVE FOR SEMIVOLATILE
MASS SPECTROMETRY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21424001	MW1S-1	WATER	04/09/92	04/13/92	04/21/92
21424001DL	MW1S-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424002	CF-INF-1	WATER	04/09/92	04/13/92	04/21/92
21424002DL	CF-INF-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424003	MW1D-1	WATER	04/09/92	04/13/92	04/22/92
21424003DL	MW1D-1 DL	WATER	04/09/92	04/13/92	04/22/92
21424004	CF-EFF-1	WATER	04/09/92	04/13/92	04/22/92
21424005	FB-3	WATER	04/09/92	04/13/92	04/22/92
21424005RX	FB-3 RX	WATER	04/09/92	05/07/92	05/08/92
C04132B1	SBLKW	WATER	NA	04/13/92	04/20/92
C05072B1	SBLKW 2	WATER	NA	05/07/92	05/08/92

C. Documentation

Exceptions : Please note that the amount listed on the quantitation report reflects the mass detected at the instrument. According to the CLP Statement of Work, 2-uL injections must be made. Therefore, the amount on the quantitation report must be divided by a factor of two in order to determine the concentration of the extract injected.

Due to a laboratory oversight, the surrogate standard was added twice to these samples during extraction. This factor was taken into account when determining surrogate percent recoveries.

No other exceptions were encountered.



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SEMIVOLATILE
LAB NO. 21424
PAGE 2

II. EXTRACTION

- A. Holding Times: All original extractions were within holding time. Sample 21424005 (FB-3) was re-extracted outside of holding time. The results of both analyses have been reported.
- B. Extraction Exceptions : No exceptions were encountered.

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : The original analysis of samples 21424001 (MW1S-1), 21424002 (CF-INF-1), and 21424003 (MW1D-1), showed target compounds above the calibration range. The samples were diluted and reanalyzed. The results of both analyses have been reported.

The original analysis of sample 21424005 (FB-3) showed 310 ug/L of Phenol. Since this is a field blank, the sample was re-extracted and re-analyzed with no Phenol detected. Therefore, the Phenol detected in the original extraction may possibly be due to laboratory contamination. Since the re-extraction was performed outside of holding time, the results of both analyses have been reported. The analysis of this re-extraction showed no recovery of one internal standard. Since this analysis was performed to investigate the Phenol contamination only, the laboratory took no further action.

No other exceptions were encountered.



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SEMIVOLATILE
LAB NO. 21424
PAGE 3

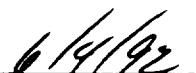
IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : Samples 21424001DL (MW1D-1 DL), 21424002DL (CF-INF-1 DL), 21424003 (MW1D-1), and 21424003DL (MW1D-1 DL) required large dilutions for analysis. Therefore, surrogate recoveries could not be determined for these samples.
- All other samples met acceptable QC limits. According to CLP protocol, one surrogate per fraction may be outside of QC limits as long as the recovery is ten percent or greater.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



Herb Kelly
Manager, Organic Division

Date



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CASE NARRATIVE FOR PESTICIDE/PCB
GAS CHROMATOGRAPHY SAMPLES

LABORATORY: CH2M HILL LABORATORIES

CLIENT: BARR ENGINEERING

CASE NO. : N/A

CONTRACT NO.: N/A

LAB NO. : 21424

SDG NO.: N/A

I. RECEIPT

A. DATE: April 10, 1992

B. SAMPLE INFORMATION

LAB ID	CLIENT ID	SAMPLE MATRIX	DATE SAMPLED	EXTRACTION DATE	ANALYSIS DATE
21424001	MW1S-1	WATER	04/09/92	04/13/92	05/06/92
21424002	CF-INF-1	WATER	04/09/92	04/13/92	05/06/92
21424003	MW1D-1	WATER	04/09/92	04/13/92	05/06/92
21424004	CF-EFF-1	WATER	04/09/92	04/13/92	05/06/92
21424005	FB-3	WATER	04/09/92	04/13/92	05/06/92
W04132B3	PBLK13	WATER	NA	04/13/92	05/06/92

C. Documentation

Exceptions : No exceptions were encountered.

II. EXTRACTION

A. Holding times: All holding times were met.

B. Extraction

Exceptions : No exceptions were encountered.



PESTICIDE/PCB
LAB NO. 21424
PAGE 2

III. ANALYSIS

- A. Holding times: All holding times were met.
- B. Analytical Exceptions : Internal standards were added to the pesticide/PCB samples before injection for internal QC purposes only. According to CLP protocol, only external standard calculations were performed for this report.

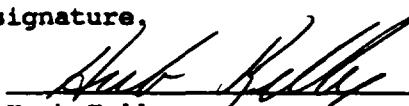
Report limits were raised for samples 21424001 (MW1S-1), 21424002 (CF-INF-1), and 21424003 (MW1D-1) because of chemical interferences not removed by our cleanup procedures.

IV. QUALITY CONTROL

- A. Method Blank : All associated method blanks met acceptable QC criteria.
- B. Surrogate Recoveries : The percent recovery for Decachlorobiphenyl for sample 21424002 (CF-INF-1) was outside advisory QC limits on both primary and confirmation analyses. Also, the percent recoveries for Tetrachloro-m-xylene and Decachlorobiphenyl for sample 21424005 (FB-3) were outside advisory QC limits on both primary and confirmation analyses. Since these limits are advisory limits only, the laboratory took no further action. All other samples met advisory QC limits.
- C. Matrix Spike Results : The native sample, matrix spike, and matrix spike duplicate results are contained within another batch of samples. The results will be reported with the results of our laboratory contract number 21405.
- D. Special Conditions : Primary and confirmation data was acquired by a single injection into a dual column/ECD system.

Please note that Forms II, IV, V, and VIII have numbers to the immediate left of each table. These numbers are sequential only and have no relation to CH2M HILL identification numbers.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature,

 6/4/92

Herb Kelly
Manager, Organic Division

2567 Fairlane Drive, P.O. Box 230548,
Montgomery, Alabama 36116

SAMPLE DATA PACKAGE

SHIPPING RECEIPTS

000089

CHAIN CISTODY
BARR E. NEERING CO.
1803 GLENROY ROAD
MINNEAPOLIS, MN 55439

SAMPLED BY:
Eric Abelson 1557

RELINQUISHED BY:

DATE
4/27/12

RECEIVED BY LAB

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE

RECEIVED BY LAB

DATE **TIME**

RECEIVED BY:

RELINQUISHED BY:

DATE

RECEIVED BY LAB

DATE | TIME

REMARKS:

SAMPLES SHIPPED VIA
 AIR FREIGHT FED. EXP. SAMPLED
 OTHER _____

AIR BILL NUMBER